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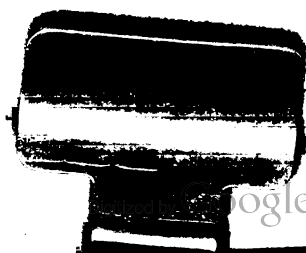
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PROCEEDINGS of the Thirty-
First Annual Convention of the
**MICHIGAN STATE VETERINARY
MEDICAL ASSOCIATION**



Held at Lansing, February 4 and 5, 1913





PROCEEDINGS

OF THE

**Michigan State Veterinary
Medical Association**

THIRTY-FIRST ANNUAL CONVENTION

HELD AT LANSING, FEBRUARY 4 AND 5, 1913

AND MIDSUMMER MEETING

HELD AT DETROIT, JULY 8 AND 9, 1913

COOPERSVILLE
DE VOS & SON, PRINTERS
1913

OFFICERS

President—Dr. G. D. Gibson, Adrian.

First Vice President—Dr. R. P. Lyman, East Lansing.

Second Vice President—Dr. M. J. Smead, Port Huron.

Third Vice President—Dr. W. A. Haynes, Jackson.

Secretary-Treasurer—Dr. W. Austin Ewalt, Mt. Clemens.

BOARD OF DIRECTORS

Dr. C. C. Mix, Battle Creek.

Dr. H. M. Gohn, St. Johns.

Dr. H. L. Schuh, Grand Rapids.

Dr. F. Amstutz, Scottville.

Dr. T. F. Krey, Detroit.

Dr. H. M. Armour, Litchfield.

*The Officers of the Association and the Board of Directors
constitute the Executive Committee.*

COMMITTEES

Clinic

Dr. W. L. Brenton.....Detroit
Dr. J. J. Joy.....Detroit
Dr. G. W. Dunphy.....Rochester

Finance

Dr. W. J. Harrison.....Deckerville
Dr. C. C. Slaght.....Tecumseh
Dr. D. Cumming.....Port Huron

Legislation

Dr. A. McKercher.....Lansing
Dr. H. M. Gohn.....St. Johns
Dr. H. L. Schuh.....Grand Rapids
Dr. G. W. Dunphy.....Rochester
Dr. J. Black.....Richmond

Intelligence and Education

Dr. R. P. Lyman.....M. A. C., Lansing
Dr. M. J. Smead.....Port Huron
Dr. J. C. Whitney.....Hillsdale

Diseases

Dr. Ward Giltner.....M. A. C., Lansing
Dr. R. H. Wilson.....Rochester
Dr. H. W. Nobles.....Grand Ledge

*Committees***Publication and By-Laws Revision**

Dr. S. Brenton.....	Detroit
Dr. M. J. Smead.....	Port Huron
Dr. H. L. Schuh.....	Grand Rapids
Dr. G. W. Dunphy.....	Rochester
Dr. J. Black.....	Richmond

By-Laws

Dr. J. Black

Dr. Geo. Dunphy

Prosecuting

Dr. C. C. Mix.....	Battle Creek
Dr. Jos. Hawkins.....	Detroit
Dr. A. B. Sexmith.....	Charlotte

Resident Secretaries

Dr. J. C. Whitney.....	Hillsdale
Dr. C. C. Petty.....	Lake Odessa
Dr. Thos. Farmer.....	Grand Blanc
Dr. H. E. Rea.....	West Branch
Dr. F. L. Harrison.....	Fairgrove
Dr. W. A. Haynes.....	Jackson

Constitution and By-Laws

CONSTITUTION

Article I—Name.

This Association shall be known as the Michigan State Veterinary Medical Association.

Article II—Objects.

The objects and purposes of the Association are for the acquisition and dissemination of knowledge pertaining to veterinary medicine and surgery, and for the elevation of the standard of professional education and the association of members of the veterinary profession for mutual recognition, advancement and fellowship.

Article III—Officers.

The officers of the Association shall be a President, three Vice Presidents, Secretary, Treasurer, and a board of six Directors, all of whom shall constitute the Executive Committee and all of whom shall be elected by ballot at each annual meeting, and the majority of all the votes present shall be necessary to a choice. They shall be elected for one year, or until their successors are chosen, to whom they shall without delay, deliver and transfer all moneys, books, manuscripts, vouchers and all other property or papers belonging to the Association in their possession.

Article IV—Duties.

The duties of officers, requisites of membership, time of annual or other meetings of the said Association and such

other regulations as may be necessary and proper for the government of the same, shall be provided for by by-laws.

BY-LAWS

Article I—President.

Section 1.—It shall be the duty of the President to preside at all meetings of the Association and to preserve order and decorum.

Section 2.—He shall appoint all committees unless otherwise ordered by special resolution.

Section 3.—He shall have no vote except on questions where the votes are equally divided, and in the election of officers.

Section 4.—He shall hand to the Secretary for file all documents and certificates in relation to the Association that may be deposited with him.

Section 5.—The President shall perform all the duties prescribed by the laws of the Association and resolution thereof.

Section 6.—It shall be the duty of the Vice Presidents, in the order of their election, to perform the duties of President in case of his absence.

Article II—Secretary

Section 1.—It shall be the duty of the Secretary to keep the records of the proceedings of the meetings of the Association, to conduct all correspondence and preserve and file all letters and communications received by him in his official capacity and to report the same at each meeting.

Section 2.—He shall receive all applications and fees for membership, and shall pay over to the Treasurer all moneys which he may receive, taking his receipt therefor.

Section 3.—He shall notify the chairman of any and all committees appointed by the President of the Association, stating the duties and names of the committee, and he shall also perform such other duties as may be assigned to him.

Section 4.—The Secretary shall receive an annual salary of fifty dollars.

Section 5.—It shall be the duty of the Secretary of this Association to compile a printed report of the transactions of said Association, including copies of papers read at its meetings, reports of facts collected, discoveries made, and experience gained, at the end of the month of December in each year, one copy of which printed report shall be deposited in the office of the Secretary of State, one in the State library, one in the medical library at Ann Arbor, and at least one retained in the office of said Secretary of said Association.

Section 6.—The Secretary shall appoint at the annual meeting a resident secretary in each congressional district from among the members of the Association whose duties shall be to report upon veterinary conditions in their several districts, solicit new members, and advance by all legitimate means the regular veterinary profession and veterinary affairs generally.

Article III—Treasurer.

Section 1.—It shall be the duty of the Treasurer to put all the moneys of the Association into one fund, to be appropriated to the payment of current expenses, and for such other purposes as the Association may, at its meetings, direct.

Section 2.—He shall pay by order of the Association all bills duly audited by the finance committee.

Section 3.—At every annual meeting he shall give a detailed statement of his receipts and disbursements, duly audited and signed by the finance committee.

Section 4.—The Treasurer shall give security for the trust reposed in him whenever the Association may deem it necessary.

Constitution and By-Laws

Article IV—Executive Committee.

Section 1.—The President, together with four Directors, shall constitute a quorum for the examination of candidates for membership, and any seven members of the Executive Committee may constitute a quorum for the transaction of business.

Section 2.—The President may call a special meeting of the Executive Committee whenever he shall deem it necessary.

Section 3.—The records of the proceedings of the Executive Committee shall be kept by the Secretary, and read at each annual meeting, together with names of the attending and absent members.

Section 4.—It is incumbent upon the members of the Executive Committee to be present at every meeting, but when unavoidably absent the vacancy shall be filled temporarily by the chair.

Section 5.—It shall be the duty of the Executive Committee to examine the credentials and vouchers of all applicants for membership. They shall report in writing the result of their examination to the President of the Association.

Section 6.—The Executive Committee shall be invested with the power to hear or determine upon complaints filed before them in writing relative to improper or immoral conduct of any member, and shall, if thought advisable, report upon such complaint to the Association at the next annual meeting, the offending member being duly notified of such complaint, and allowed the privilege of defense; and such member, if deemed guilty by a vote of two-thirds of the members present, shall cease to be a member of the Association.

Article V—Committees

Section 1.—The following committees shall be appointed by the President at each annual meeting, namely:—

Committee on Intelligence and Education.
Committee on Diseases.
Committee on Finance.

Committee on Clinic.
Committee on Publication.
Committee on Legislation.

Section 2.—The Committee on Intelligence and Education shall collect and report to this Association recent veterinary medical facts and intelligence.

Section 3.—It shall be the duty of the Committee on Diseases to investigate the character and extent of prevalent diseases throughout the State and report at each meeting.

Section 4.—The Finance Committee shall audit the Treasurer's accounts and also all other bills and accounts that may be presented to the Association for payment. They shall also devise ways and means to raise funds when necessary to meet the expenditures of the Association and report their proceedings at each annual meeting.

Section 5.—The President shall be ex-officio a member of the several permanent committees, and shall have the power to convene them, whenever in his judgment it shall be necessary.

Article VI—Meetings, Place and Time Of.

Section 1.—The place of the annual meeting shall be Lansing, Ingham County, Michigan.

Section 2.—The time of the annual meeting shall be on Tuesday after the first Monday in February.

Section 3.—Special meetings may be called by the President upon the written request of six members, specifying the particular objects of such meeting, a notice of which shall be given at least one month before said meeting. The President is also authorized at his discretion to call special meetings duly notified as above.

Section 4.—At a special meeting no other business except such as shall have been specified in the requisition and in the published call for the meeting, shall be transacted.

Section 5.—Ten members shall constitute a quorum for the transaction of business.

Section 6.—Every member shall observe order and decorum in the meetings of the Association, shall pay due respect to the Chairman and his fellow members, and no member shall

withdraw during the session without special permission from the Chair.

Section 7.—All questions of order, whether in debate or otherwise, not specially provided for, shall be decided by the usual parliamentary rules.

Article VII—Candidates For Membership.

Section 1.—Any applicant for membership shall submit his name upon one of the Association's application blanks, duly vouched for by two members of the Association. He shall be a graduate of a legally constituted veterinary college, registered by State Board, and eligible to membership in the American Veterinary Medical Association. He shall be of good moral character and reputable business methods.

FORM OF APPLICATION

To the Michigan State Veterinary Medical Association:—

-----191--
 I hereby make application for membership in your society. My
 age is-----years. I am a graduate of-----
 College, year----- My residence is-----
 Signed-----
 VOUCHERS Degree.

 Degree.

 Degree.

Balloted on and-----191--

This application blank should be filed with the Secretary on or before the day of the annual meeting, in the applicant's own handwriting, and so endorsed by his vouchers.

Section 2.—The credentials of all applicants shall be referred to the Executive Committee, who shall report upon the same in writing to the President.

Section 3.—All candidates reported favorably by the Executive Committee shall be balloted for by the Association. Those receiving two-thirds vote of the members present shall become members of the Association.

Section 4.—All applications of candidates for membership adversely reported shall not again be entertained until the expiration of one year.

Section 5.—A member elect shall pay to the Secretary his admission fee, whereupon he shall sign the constitution and by-laws and receive his certificate of membership.

Section 6.—Honorary Members—Any member may propose a candidate for honorary membership; rank or station held by him shall be furnished in writing by the proposer at the time of such proposal. The person so proposed shall be balloted for at a subsequent meeting, and a majority of votes shall constitute him an honorary member. Honorary members may take part in debate but shall not be entitled to vote.

Article VIII—Contributions and Arrears.

Section 1.—The admission fee shall be five dollars.

Section 2.—The annual dues of the Association are two dollars.

Section 3.—The Association at its annual meeting may assess such amounts as may be needed to meet the necessary expenses.

Section 4.—Any member two years in arrears shall be notified by the Secretary at least thirty days before the next annual meeting, and if said arrears are not paid on or before said meeting, the Secretary shall report said delinquent to the Executive Committee for suspension at their discretion.

Article IX—Order of Business.

1. Roll call of members.
2. Reading of minutes of previous meeting.
3. Report of Executive Committee.
4. Applications for membership.
5. Admission of new members.
6. Reports of officers.
7. Unfinished business.
8. New business.
9. Essays, papers and discussions.
10. Election of officers.

Article X—Code of Ethics.

Section 1.—No member of this Association shall assume a title to which he has no just claim.

Section 2.—No member shall speak disrespectfully of another or in any way attempt to lessen his professional reputation, particularly for his individual advancement.

Section 3.—In all cases of consultation it shall be the duty of the veterinary surgeon in attendance on a case to give the opinion of the consulting veterinary surgeon (whether favorable to his own or otherwise) to the owner of the patient in the presence of all three; the attending veterinarian should give a minute history and treatment of the case. If the owner be absent the veterinary surgeon consulted may, after giving his opinion to the attending veterinary surgeon, transmit it also in writing to the owner through the medical attendant. It shall be deemed a breach of this code for a consulting veterinary surgeon to revisit a patient without a special invitation or agreement.

Section 4.—In advertising the veterinary surgeon shall confine himself to his business address. Advertising specific medicines, specific plans of treatment, advertising through the medium of posters, illustrated bills, newspaper puffs, etc., will not be tolerated by this Association.

Section 5.—Secret Medicines—Any member who shall advertise or otherwise offer to the public any medicines, the composition of which he refuses to disclose, or who proposes to cure diseases by any such secret medicines, shall be denounced as an unworthy member and shall be expelled from the Association.

Section 6.—It shall be deemed unprofessional for any member of the veterinary profession to act as a veterinary correspondent or adviser for any journal or paper outside of a regular recognized veterinary or medical journal, or to give a lecture or course of lectures to any association or body of men outside of regular recognized veterinary or agricultural college, veterinary association or farmers' institute.

Section 7.—It shall be deemed unprofessional for any member of the profession to associate or go in partnership with an empiric, or a so-called veterinary dentist.

Section 8.—Every member shall observe the code of medical ethics adopted by this Association and be answerable for a breach of the same to the Executive Committee.

Article XI—Suspension and Alteration of By-Laws.

Section 1.—A motion for suspension of By-Laws must be offered in writing, and to be adopted will require a two-thirds vote of the members present.

Section 2.—All proposals for alteration of By-Laws shall be stated in writing. No alteration proposed by members shall be acted upon until it is referred to the Executive Committee and presented anew by them. The entire membership of the Association shall be notified previous to any action thereon.

Section 3.—A suspension of the rules may be made during a single meeting by the unanimous consent of the members present.

**Proceedings of the Thirty-First
Annual Convention**

OF THE

**Michigan State Veterinary Medical
Association**

CHAMBER OF COMMERCE HALL

Lansing, Tuesday, February 4, 1913.

The thirty-first annual meeting of the Michigan State Veterinary Medical Association was called to order by President J. Black.

By request of the President, Prof. Lyman announced that the annual banquet would be held in the dining room of Hotel Wentworth and suggested that the M. A. C. Quartet be obtained to furnish singing. This was voted on and carried.

Upon motion, duly seconded, the Chair authorized the Banquet Committee to collect \$1.25 from all those wishing to attend the banquet, the extra twenty-five cents per plate to be paid to the Quartet.

Roll call found the following officers present: President J. Black, First Vice President H. M. Armour, Third Vice President H. H. Clement, Secretary and Treasurer W. Austin Ewalt.

Directors: H. L. Schuh, E. B. Cavell, G. D. Gibson, A. McKercher.

Members present: Frank Amstutz, W. N. Armstrong, J. S. Donald, C. C. Dauber, S. Brenton, F. M. Blatchford, W. J. Byers, D. C. Bell, J. D. Bell, H. T. Creagan, G. W. Cronkite, A. B. Curtice, G. W. Dunphy, D. Cumming, M. E. Elzinga, H. M. Gohn, Ward Giltner, F. G. Gilbank, W. A. Haynes, F. L. Harrison, Jas. Harrison, W. J. Harrison, Gustave Heidel, W. J. Johnson, J. E. Joslin, T. F. Krey, R. P. Lyman, G. C. Moody, C. C. Mix, W. H. Nobles, C. C. Petty, John Russell, W. J. Rooks, R. D. Rice, Chas. Sterling, H. E. States, C. C. Slaght, W. D. Siebert, A. B. Sexmith, M. J. Smead, C. C. Schafer, J. C. Whitney, W. H. Wilkinson, P. W. Wolly, C. A. Waldron, R. H. Wilson.

Honorary: Jos. Hawkins.

Visitors: Prof. E. A. A. Grange, Prof. M. H. Reynolds, D. M. Campbell, Pres. Snyder, E. T. Hallman, W. S. Robbins, H. H. Halladay, Dr. D. E. McClure.

PRESIDENT'S ADDRESS

Brother Veterinarians, Fellow Members of the M. S. V. M. A. and Gentlemen — This is the third time since I became a member of this Association in 1895, that I have enjoyed the privilege of addressing this body from the president's chair. The first time was as first vice president at the meeting in 1898, when President Campbell, of Jackson, was absent. That same year I was elected as your president, and of course, presided at the meeting the following year; and now, after continuous service in one capacity and another I have been again honored with this position, and my main ambition at this time is, that we will have one of the best meetings of our history, and that the year just closing will be classed among the prosperous ones of our Association.

Looking backward and viewing the years of my connection with this Association, official or otherwise, my experience has been one of pleasure and unquestioned value, not only from an educational, but from a social standpoint. From my

experience as a member I can most emphatically advise the younger members of the profession that they cannot afford to forego the inestimable help secured only by membership in associations of this nature. You have only to observe the narrow and circumscribed experience of those who persist in remaining aloof from their fellows, to see their lack of ethical and professional training and method. For every one member of this profession that never attends a meeting of this nature, who is a good studious up-to-date practitioner, a dozen will be found that are retrograding, or have gotten into a rut and are sticking to the old methods of treating diseases the bad with the good.

Again, the veterinary profession would not be making the forward strides in a social way that has been so much in evidence the past few years. Twenty-five years ago a veterinarian as a mayor of his town or a supervisor or other officer in his municipality was almost an unknown quantity; now it is no uncommon occurrence. The modern up-to-date veterinarian who is trying to place his profession on its proper high level will always be found a prominent factor in local affairs, and his place in social activity along side the honored family physician is unquestioned.

Many of us have at one time or another been tempted to seek the pot of gold at the end of the rainbow, by entering, or thinking strongly of entering, the proprietary medicine business. How glowing appears the profits until a more or less expensive experience disillusions the victim. This reprehensible practice is not tolerated by any reputable veterinary medical association, but is discouraged in every way, and many that would otherwise embark in this business are prevented from so doing by the wholesome encouragement and advice furnished by the constitution and by-laws. Our clients are progressing in their adverse attitude along these lines, and the veterinarian who dabbles in these things lowers himself in the estimation of this coming class, while those who in a dignified and unselfish way disapproves of these methods, will ultimately gain respect by their position.

Another thing; how trustworthy an answer would be given, if asked to give our opinion upon the latest developments in the study of specific diseases, by an intelligent client or professional man, who might require some information regarding rabies, contagious abortion, tuberculosis, swamp fever, glanders, hog cholera, etc.? You do not know when one or more of these diseases may appear in your locality. From holy writ I quote, "Be ye also ready." I venture to assert that there is no other way provided whereby this information may be acquired more readily and with less expense than by a faithful attendance at the meetings of a reputable veterinary medical association.

In order to be consistent with the policy advocated later in this address we must economize our time and hasten along. There are many matters of direct interest to the Association that we will try and touch upon. Increasing membership, and the resultant extra duties necessarily added to our work each year, will either require that we curtail or condense our work, or add some to the length of our session. The latter was tried last year and evidently did not meet with approval, as you will notice when the proceedings are read. Another plan which I will endeavor to outline, if adopted, I am convinced would enable us to do much more work with equal profit to all, and if it can be worked out we will be able to handle all our work in the time allotted by our by-laws.

First—I would recommend that a publication committee be appointed, and that they be empowered to have the entire proceedings printed each year in the form of a pamphlet or booklet. All papers, addresses, and discussions would in this way be at all times available for reference, and would be a partial substitute for the meeting to those unable to attend, and chiefly it would save the time reading the proceedings at each meeting, which is considerable. The cost would be very little, as advertising space can be sold which will mostly cover the expense. I have a printed copy of the Indiana Association's proceedings and they are here for your inspection.

Second—An enrollment book could be provided so that members could enroll themselves and roll call be dispensed with in that way.

Third—All matters that can be, should be referred to a committee having jurisdiction, and be considered by them when called in session by the chairman, their reports to be made in writing and disposed of in the usual parliamentary manner.

By adopting some method such as has been outlined above, more would be accomplished in less time, and as much or more time for visiting than at present.

Those who have lately perused our By-Laws will agree that they need revision, as conditions and requirements have changed since the present code was adopted. Many amendments have been regularly adopted that have not been inserted in the present edition, and as it will be necessary to have another supply they should be fixed up at once. I therefore recommend that a By-Law Committee be appointed to revise, add to, or take from, as deemed expedient, and submit their report at our next meeting, special or regular.

A letter received recently from one of our members suggested that a resident secretary be appointed in each county and the proposal is a good and timely one, and in a modified form should be considered by the proposed By-Law Committee. Doubtless much could be accomplished in this way in legislative matters, and in increasing our membership. The county system we could not adopt, as there are many counties in which we have no members, but a resident secretary in each senatorial district would, I have no doubt, accomplish the same results.

Three events of national import that especially appeals to us of Michigan have occurred during the last year.

First—The meeting of the A. V. M. A., at Indianapolis, which was presided over by our esteemed fellow member, Dr. Brenton. Michigan responded nobly with new members about

twenty-five or thirty being added to our already good representation of members making sixty-two in all. Dr. C. C. Mix, who attended as a representative of this Association, will have a report for you.

Second—The noble fight made in congress by the committee on Legislation of the A. V. M. A., headed by Dr. W. Horace Hoskins. Michigan veterinarians have reason to be proud of the part they have taken in that struggle. Through their efforts every member of congress and both senators were with us, which is some record. I would suggest that a resolution expressing our appreciation of their efforts in behalf of army veterinary legislation, be adopted at this meeting, and a copy be sent to each congressman and senator.

Third—The charges that were made last May against the federal meat inspection service interests us, chiefly because the star complaining witness was a Michigan woman, Mrs. Caroline Bartlett Crane, of Kalamazoo. Her evidence was in relation to the lax methods practiced in stamping meat, passed or condemned, allowing sealed cars (that had been sealed by inspectors) in which meat was being transported that was passed but not stamped, to be tampered with, or broken, in transit, the careless ante-mortem inspection, the passing of carcasses, or parts of carcasses, parts of which were diseased, and that meat for export was given a better inspection, and safer guarantee, than meats or meat products for home consumption. In a circular issued by the office of the Secretary of Agriculture in regard to these charges we find this defense, or denials, in these words: "The statements in these whereas clauses are for the most part either absolutely false, or are mixtures of half-truths with falsehood skillfully blended, producing a semblance of truth, and creating an erroneous impression."

Mrs. Crane had, however, a good word to say for the veterinary inspectors. I quote from her testimony before the committee. She says:—

"And I take this occasion also to say that I am not indulging in any denunciation of inspectors. I believe the rank and

file of inspectors are honest men doing the best they can. I am talking about veterinary professional men; as I take it, every one from a veterinary college is a professional man. Of course, they are human, just like other people, but I mean I have no reason to suppose that they are not honorable men trying to do their duty."

I have purposely avoided statistics, but I wish to submit a few, very few, to show that the recent talk that the horse had to go must not be taken too seriously. In 1900 there were 21,203,901 horses and 3,438,520 mules in the United States. In 1910 there were 23,813,850 horses, 4,453,943 mules and the increase in value in the decade was horses 132 per cent, mules 166 per cent.

Here is a statement from the manager of one of the large Michigan auto concerns:—

"Where is all the complaint about the motor car displacing the horse?" asks H. R. Radford, general manager of the Carter-car Co., of Pontiac, Michigan. "When the first automobile was produced, there was a terrible cry from the farmers that the horse breeding business would be ruined," said Mr. Radford, "and this false understanding caused the country people to consider the motor car antagonistically for several years. Then they realized that the motor car in its own field was so superior to any horse drawn vehicle that there was no comparison, and that the horse will continue to be in demand in its own sphere."

Perhaps we were unnecessarily alarmed like the little Sunday-School boy when the superintendent asked:—

"Who led the children of Israel into Canaan? Will one of the smaller boys answer?" No reply.

Superintendent—(somewhat sternly): "Can no one tell? Little boy on that seat next to the aisle, who led the children of Israel into Canaan?"

Little boy—(badly frightened): "It wasn't me—me. I—I just moved here last week f'm Mizzoury."

To many of us this annual meeting is about all the vacation we get, and for that reason we should leave all our professional worry and cares at home and endeavor to make this occasion one of joy as well as profit. While industry and thrift are qualities admired by all, we cannot afford to be too strenuous, gather some of the good cheer and pleasure that is floating in the air all about you, no matter where you are, and you will be happier and live longer. You will not be like the fellow, who, when asked; "Why are you so glum?" replied, "I am married. People told me if I got married I would live longer, and I have found out that it only seems longer."

It would be unjust to close without a word of appreciation to our worthy secretary. His work has been performed in an able and conscientious manner, with an eye always upon the welfare and best interests of our Association. Notwithstanding the fact that the hand of affliction has lain heavily upon him the past year he has served you faithfully.

Thanking you for your attention and for this privilege of addressing you, we will now proceed with our business.

Motion was made and seconded that the reading of last year's minutes be dispensed with. Carried.

REPORT OF SECRETARY-TREASURER

FOR YEAR ENDING FEBRUARY 1, 1913

1912	Receipts.	
Feb. 12	Received from Secretary Black.....	\$202.16
Feb. 12	Judson Black, dues.....	1.00
Feb. 12	Unaccounted for dues, 1911.....	1.00
Feb. 21	W. E. Adams, dues.....	2.00
Feb. 26	Chas. Stirling, dues.....	2.00
Mar. 22	S. M. Mizer, dues.....	1.00
Mar. 22	T. S. McConnell, dues.....	1.00
<i>Amount Carried Forward</i>		<u>\$210.16</u>

Minutes of Annual Meeting

27

<i>Amount Brought Forward</i>		\$210.16
Mar. 24	F. L. Harrison, dues.....	1.00
Mar. 24	W. A. Ewalt, dues.....	2.00
Mar. 27	A. L. Tiffany, dues.....	1.00
Mar. 27	W. McQueen, dues.....	2.00
Mar. 27	U. S. Springer, dues.....	1.00
Mar. 28	H. L. Schuh, dues.....	1.00
Mar. 28	R. F. Irwin (per Black), dues.....	1.00
Mar. 30	J. F. Deadman, dues.....	1.00
Apr. 4	J. F. Deadman, dues.....	2.00
Apr. 9	B. C. Smith, dues.....	1.00
Apr. 27	H. H. Clement, dues.....	1.00
May 16	R. P. Lyman, dues.....	1.00
June 1	J. W. Brodie, dues.....	1.00
July 25	R. Armstrong, dues.....	3.00
July 25	M. E. Elzinga, dues.....	2.00
July 29	A. B. Sexmith, dues.....	3.00
Aug. 6	T. R. Artridge, dues.....	1.00
Aug. 20	G. W. Switzer, dues.....	3.00
Aug. 29	F. A. Scott, dues.....	2.00
Oct. 23	J. E. Wurm, dues.....	2.00
Oct. 30	A. H. Moody, dues.....	2.00
Dec. 16	W. J. Francoise, dues.....	2.00
Jan. 8	S. M. Mizer, dues.....	2.00
Feb. 4	Interest on deposit.....	1.46
Total		\$249.62

1912

Expenditures.

Feb. 12	W. Coxé, unaccounted for dues.....	\$ 1.00
Feb. 14	Prof. W. L. Williams.....	50.00
Feb. 21	McKercher Leg. Com. Expense.....	56.90
Mar. 1	C. C. Mix, Leg. Com. Expense.....	3.64
Mar. 1	H. M. Armour, Leg. Com. Expense.....	4.10
Mar. 24	Modern Press, stationery.....	9.25
Mar. 24	Calvert Litho. Co.....	23.52
<i>Amount Carried Forward</i>		\$148.41

Minutes of Annual Meeting

<i>Amount Brought Forward</i>		\$148.41
Mar. 16	Postoffice Dept., envelopes.....	10.60
May 18	H. F. Harris, printing.....	1.50
Aug. 29	H. F. Harris, printing.....	3.00
Nov. 27	J. Hawkins, flowers Mrs. Brenton.....	5.00
Dec. 13	Postoffice Dept., envelopes.....	10.62
Jan. 17	Secretary of State, filing fee.....	.50
Jan. 31	Modern Press, programs.....	7.50
Jan. 31	Secretary-Treasurer, salary	50.00
Feb. 4	Balance on hand.....	12.49
Total.....		\$249.62

It was moved and supported that the above report be referred to the Executive Committee. Carried.

The following applications for membership were read and referred to the Executive Committee:—

C. E. Splan, M. D. V., McKillip V. C.....	1907
Vouchers, Drs. D. C. Bell, C. C. Mix	
Milton R. Thyng, V. S., Ontario V. C.....	1905
Vouchers, Drs. C. C. Petty, H. M. Armour	
James P. Draper, D. V. M., Grand Rapids V. C.....	1906
Vouchers, Drs. H. L. Schuh, John M. Miller.	
E. A. Bower, D. V. M., Grand Rapids V. C.....	1909
Vouchers, Drs. H. L. Schuh, A. B. Sexmith	
Chas. S. McGuire, D. V. M., Grand Rapids V. C.....	1909
Vouchers, Drs. H. L. Schuh, John M. Miller	
Lewis Griswold, D. V. M., Grand Rapids V. C.....	1909
Vouchers, Drs. H. L. Schuh, John M. Miller	
Claude F. Crawford, D. V. M., Grand Rapids V. C.....	1910
Vouchers, Drs. H. L. Schuh, John M. Miller	
Fred W. Main, D. V. M., Grand Rapids V. C.....	1909
Vouchers, Drs. H. L. Schuh, John M. Miller	

Hugo Cornell, D. V. M., Grand Rapids V. C.....	1908
Vouchers, Drs. H. L. Schuh, John M. Miller	
J. P. Hutton, D. V. M., Ohio State University Vet. Dept....	1909
Vouchers, Drs. J. D. Bell, H. W. Nobles	
Martin Olthouse, D. V. M., Grand Rapids V. C.....	1912
Vouchers, Drs. Robertson Muir, H. L. Schuh	
Burr R. Huston, D. V. M., Grand Rapids V. C.....	1911
Vouchers, Drs. H. L. Schuh, John M. Miller	
B. A. Perry, D. V. M., Grand Rapids V. C.....	1912
Vouchers, Drs. H. L. Schuh, John M. Miller	
Wm. M. Vanderhoof, V. S., Ontario V. C.....	1912
Vouchers, Drs. M. J. Smead, J. Black	
M. J. Geiger, D. V. M., Chicago V. C.....	1912
Vouchers, Drs. M. J. Smead, J. Black	
Walker W. Stevens, V. S., Ontario V. C.....	1911
Vouchers, Drs. M. J. Smead, J. Black	
F. H. Hicks, M. D. V., McKillip V. C.....	1911
Vouchers, Drs. H. L. Schuh, John M. Miller	
J. S. McDaniel, D. V. S., Kansas City V. C.....	1909
Vouchers, Drs. R. P. Lyman, M. J. Smead	
E. T. Hallman, D. V. M., Alabama Polytechnic Institute..	1910
Vouchers, Drs. R. P. Lyman, J. Black	
Sylvester Brown, D. V. M., Chicago V. C.....	1912
Vouchers, Drs. F. A. Scott, W. A. Ewalt	

Secretary Ewalt read the following report to the Association for the Executive Committee:—

The first regular session of the Executive Committee was held in a room in the Chamber of Commerce Hall, Tuesday, February 4th, at 3 p. m., Dr. J. Black presiding.

On motion, duly seconded and passed, it was voted to report favorably on the following applicants: J. P. Hutton, Claude F. Crawford, Chas. S. McGuire, F. W. Main, Lewis

Griswold, E. A. Bower, W. W. Stevens, M. J. Geiger, W. M. Vanderhoof, B. A. Perry, J. S. McDaniel, Burr R. Huston, F. H. Hicks, Martin Olthouse, Sylvester Brown, Jas. P. Draper, E. T. Hallman.

It was further moved and supported that the applications of C. E. Splan and M. R. Thyng be recommended to lay over one year for further investigation. Carried.

It was also moved and supported that the application of Hugo Cornell be rejected and money returned. Carried.

Meeting adjourned.

After a lively discussion it was moved and supported that all applicants not eligible for membership in the American Veterinary Medical Association be held over till such time as they will be eligible for membership in said Association. Carried.

Moved and supported that the remainder of the Executive Committee's report be adopted. Carried.

Moved and supported, that the By-Laws be suspended and the several applications be acted on separately. Carried.

The following persons were then duly elected to membership and so declared elected by the President:—

Sylvester Brown, J. S. McDaniel, E. T. Hallman, J. P. Hutton, Martin Olthouse, Burr R. Huston, B. A. Perry, Walker W. Stevens, M. J. Gieger, William M. Vanderhoof and F. H. Hicks.

Prof. R. P. Lyman, in the absence of the Secretary, read communications from Prof. E. A. A. Grange, Grand Rapids Association of Commerce, Prof. W. L. Williams, and an announcement of the death of our esteemed friend and fellow member, Dr. Robertson Muir.

Moved that the several communications be accepted and filed as read. Carried.

Report of Committee on Legislation deferred.

Report of Committee on Intelligence and Education deferred.

Report of Representative to A. V. M. A., Dr. C. C. Mix.*

Report of Committee on Illegal Practice, Dr. C. C. Mix.*

Moved and supported that the incoming president write the editor of the Michigan Farmer relative to carrying ads of Veterinary Correspondence Schools. Carried.

PAPERS AND DISCUSSIONS

QUININE AND UREA HYDROCHLORIDE AS A LOCAL ANESTHETIC

By R. H. Wilson, D. V. M., Rochester

For years cocaine and its synthetic chemical substitutes have been employed to produce local anesthesia for surgical purposes. These products are of great value to the surgeon in the performance of certain operations, and to the veterinarian especially, are of aid in the diagnosis of obscure lameness. It is a well-known fact, however, that these local anesthetics, particularly cocaine, have certain characteristics which detract from their value and limit their extensive use. Toxicity, short duration of anesthesia, rapid deterioration of the solution and occasional complications, such as stupefaction, nervous and functional troubles, are among the more or less undesirable features connected with their use. In veterinary practice, strong solutions of cocaine produce conditions antagonistic to the successful control of the patient and in such cases the agent is worse than useless.

For the reasons noted above, cocaine and its allied products have been used cautiously and not as frequently, perhaps,

*Unable to get report.

in surgical operations as indications would denote. Because of these limitations, investigators have been for years endeavoring to devise a local anesthetic that would contain the good qualities of cocaine but none of its objectionable ones.

In 1907, Dr. Henry Thibault, of Arkansas, published a short article calling attention to the local anesthetic effect of quinine and urea hydrochloride. This product has been used extensively for the treatment of malaria in the South, where it was discovered that the site of the injection remained anesthetized for a considerable time. This led to an investigation as to the possible value of the solution as a local anesthetic and non-toxic substitute for cocaine. Since 1907, several investigators in the medical profession have reported favorably of the product in controlling operative pain. It has been used in a great many operations in which it is necessary to employ a local anesthetic, and with results which indicate that the agent is fully as efficient as cocaine.

For some reason or other, veterinary literature contains but few reports of the use of quinine and urea hydrochloride, even in an experimental way, and it is the purpose of this paper to give a brief description of the product together with the results attending its use on fifty cases during the past year.

Properties—The preparation is a double salt of quinine and urea and is prepared by dissolving four hundred parts of quinine hydrochloride in three hundred parts of hydrochloric acid, adding to this solution sixty or sixty-one parts of pure urea, warming the mixture until dissolved, filtering it through glass wool and allowing it to crystallize. The salt is soluble in its own weight of water or alcohol. It is also soluble in eight hundred parts of chloroform. It occurs in colorless crystals which form as four-sided prisms, or as a white powder. Aqueous solutions are acid. It contains 70 per cent of alkaloidal quinine and about 17 per cent of urea hydrochloride. It is non-irritating and apparently non-toxic, and produces anesthesia by its inhibitory or depressing action on the terminal nerves.

To illustrate its non-toxicity or avoidance of systemic effects when administered even in excessive dosage, Brewster reports giving a patient (man) a hundred grains of the salt intravenously in six hours with recovery of the patient. This amount is the equivalent of about one and one-fourth pints of a 1 per cent solution. Also a veterinarian who recently used a quinine and urea hydrochloride solution, not knowing the strength necessary to use, administered at one injection, ten times the necessary amount without detrimental effects. Anesthesia was complete in ten minutes and the part remained in this condition for several days. The bodily functions of the animal showed no impairment at any time.

Unlike cocaine solutions, solutions of quinine and urea hydrochloride will keep for a long period without deterioration. Fungus growths will not develop in it and if it is necessary to sterilize the solution at any time, such can be done without decomposition of the drug.

Administration—The injections are made in practically the same manner as in the case of cocaine anesthesia. Some operators report that it does not seem to anesthetize the skin when injected under it as profoundly as cocaine does. This disadvantage can be overcome if the operator uses a fine needle and first introduces it endermically—between the layers of the skin instead of under it—until the beveled portion of the needle is covered, then depositing a drop of the solution, gradually pushing the needle farther but always being careful to stop just before forcing the needle point beyond the limits of the wheal which results from the injection of the solution. By proceeding in this manner, as much skin as desired may be anesthetized with no pain but that from the original puncture, which is trifling. When the skin is so treated, the underlying tissues can be readily anesthetized without difficulty.

The strength solution usually employed for injection is 1 per cent, although several operators have reported using solutions from 1 to 10 per cent. It occasionally happens that a slight local induration develops in the tissues when the

strong solutions are used, but this may be considered an advantage because of the hemostatic effect. For local application to mucous surfaces, solutions varying in strength from 10 to 20 per cent have been suggested.

The amount of solution to inject varies of course with the strength of the solution used and the extent of the area to be anesthetized. If the 1 per cent solution is used, from 15 to 250c may be considered a sufficient quantity for the average operation. It has been the experience of the writer, however, that 10 or 15c. of a 6 or 8 per cent solution will give more satisfactory results, in that anesthesia is more profound and of longer duration.

Anesthesia is not obtained as quickly with quinine and urea hydrochloride as with cocaine, eucaïne or novocaine. From 5 to 30 minutes may elapse before the operation may be undertaken painlessly. It is best to wait at least twenty minutes after the injection before attempting to operate. The duration of anesthesia varies from a few hours to several days, depending upon the strength and quantity of solution employed.

Report of Cases—During the past year, Dr. G. W. Dunphy and the writer have used quinine and urea hydrochloride as a local anesthetic in fifty cases. The cases operated on were as follows:—

Thyroidectomy	38
Poll Evil	3
Fistulous Withers	4
Tumors	3
Abscess	1
Tenotomy	1
Total	50

In all but five of the cases, a 1 per cent solution was employed in quantities from 15 to 25c. per case. With the exception of three or four cases, in which the operations were started in five minutes after injection of the solution, anesthesia was complete and persisted for a period of from several hours

to two or three days. In fact, some of the thyroidectomized horses showed no pain when the tissue in close proximity to the wound was subjected to pressure a week following the operation. Many of these horses did not offer any resistance or show any evidence of sensitiveness for several days while the wounds were being treated. In two operations, one fistulous withers and one tumor, which necessitated free use of the knife, no restraint was required for the animals, so profound was the anesthesia.

While the hemostatic effect of the quinine solution (1 per cent) was not as marked as that attending the use of a combination of cocaine and adrenalin, its effect in this regard was appreciable.

An 8 per cent solution was used in five cases, 10c. being injected. It was noted that this strength solution produced anesthesia in shorter time and was of longer duration; also the control of hemorrhage was more pronounced.

In practically all cases healing progressed rapidly, due apparently to persistence of the post operative anesthesia which prevented the animal from irritating or in any way molesting the wound until union was well advanced.

It is reasonable to infer from the results of the use of quinine and urea in these fifty cases as well as the results reported by others, that this preparation is a safe, efficient and practical local anesthetic. Veterinarians should find it of inestimable value because of its several distinct advantages over any of the other anesthetic drugs upon which they have previously depended. Among these advantages the following may be enumerated: 1, Non-toxicity; 2, Ready solubility; 3, Stability of solution; 4, Can be sterilized without deterioration; 5, Marked hemostatic effect, especially solutions of from 4 to 8 per cent; 6, Persistent post operative anesthesia; 7, Completeness of anesthesia; 8, not expensive.

NEWER BIOLOGICAL PRODUCTS

By T. F. Krey, D. V. S., Detroit

Therapeutics, especially biological therapeutics, are advancing so rapidly that each year as we re-convene we find that we have approached much nearer the goal of treatment as a more exact science.

We learn, with much appreciation, that much of this progress is due to achievements of veterinarians who have devoted their lives to research work, and by unceasing toil are demonstrating their ability to cope with the most intricate bacteriological problems of the day. Within comparatively recent years the entire medical profession was astounded by the discovery of the opsonic theory by Wright and Douglass, and the advent of Bacterial Vaccines.

We are indebted to Metchnikoff for the discovery that certain leucocytes (the phagocytes) resist infection by destroying pathogenic bacteria in the blood stream. They are enabled to do this by the opsonins, which, in some way, combine with the bacteria and prepare them for the destruction by the phagocytes. Sir A. E. Wright of London, demonstrated that fact and invented the term "opsonins." Wright also discovered that the opsonins may be increased by injecting bacterins and thus an entirely new method of treating infectious diseases was brought to light, enabling us to treat diseases which, prior to its discovery were, in many cases, incurable. Splendid and even brilliant results have followed a proper use of Bacterial Vaccines in well selected cases, but, as is the usual case with new discoveries of this kind, a promiscuous use of the treatment greatly overshadows its merits. To explain more fully—Bacterial Vaccines are frequently used when they are contraindicated. Far too little intelligent thought is given proper dosage for the individual case, the attending veterinarian using

a series of treatments alike for each case he treats, without considering the fact that, while fifty million killed bacteria may be the proper sized initial dose to give to one animal, the indication of another case may be five hundred million or a billion bacteria. No set or fast rule can be given for the administration of Bacterial Vaccines. The dose depends entirely upon the condition of the animal and the reaction which may follow the initial dose, and I believe that the fear of a severe reaction prevents proper therapeutic effects in many instances, while, on the contrary, I believe it is becoming a generally accepted belief that better results follow pronounced reaction. It is quite possible that Bacterial Vaccines are administered when serums are indicated. Serums give the best results in acute general infections, when the condition of the patient is such that he cannot produce his own anti-bodies. It is then necessary to supply them by an injection of serum. At the very outset, infectious processes are generally localized and in such cases the prompt use of a suitable bacterial vaccine is indicated. Thus it will be observed that the extent of the infection is a guide to the proper selection of the serum or vaccine to be employed—in other words, bacterial vaccines are most useful in localized and semi-localized infections and serums are indicated in general infections.

Among the newer vaccines is an experimental anti-abortion vaccine.

During the past year we have carried on some extensive experimental work with anti-abortion vaccine, which bids fair to prove successful, although it is yet too early to arrive at definite conclusions. For the purpose a bacterial vaccine consisting of a suspension of the *Bacillus Abortus* of Bang, an organism recognized as the etiological factor of epizootic abortion in cows, is used. Cultures of the *Bacillus Abortus* (several strains) grown on suitable media, are washed off with physiological salt solution. The bacteria are then destroyed and the suspension diluted with salt solution until 1-Cc contains the desired number of organisms. For prophylactic treatment four gradually increasing doses are given at inter-

vals of from seven to ten days, the initial dose consisting of half billion organisms, the second dose one billion, the third dose two billion and the fourth dose four billion killed bacteria. An infected dairy herd in which the specific organism had been isolated from several cases by Dr. R. W. Wilson, was treated by him with the experimental vaccine, as follows: 17 pregnant cows, some of them advanced to the seventh and eighth month of pregnancy, and 10 non-pregnant animals, received vaccine treatment, the balance of the herd, 30 in number, serving as controls. To date, eight of the controls have aborted and none of the treated animals, some of which stood in close proximity to the controls which aborted. Four of the treated cows showed a slight reaction after the injection, but it generally passed off in a few hours.

The following excerpts from the report of an experimental co-worker on this treatment will further illustrate that the vaccine is proving of therapeutic value:—

“So far, we have had the most gratifying results with the treatments. Every cow has carried her calf full time or within a few days of full time and the calves were all alive when born. In some cases, cows that had aborted from one to three years previously, and failed to conceive when bred regularly since aborting, bred successfully soon after the course of vaccine treatment and are now well along in gestation. We decided to give every cow and heifer in the herd that had been bred, whether with calf or not, the treatment; excepting those that were eight months or over in gestation. Only three cows have failed to conceive and we are of the opinion that the trouble is due to other causes than abortion. All but these three are now carrying calves or have calved normally. When we consider that a large percentage of these cows were habitual aborters and every known method had been faithfully tried to eradicate the disease without avail, we must admit that our results with the vaccine were truly marvelous. It would have been a fine experiment to have reserved some of the cows as controls but the college had lost so much through depreda-

tions of this scourge in its dairy, we wanted results as soon as possible and treated them all."

Many herds are now under treatment with this experimental vaccine and it seems needless for me to emphasize the importance and immense value to the dairy interests of the country of a successful anti-abortion vaccine. Let us hope that this experimental vaccine will prove successful. The theory of multiple infection and the advent of Phylacogen as remedial agents, may safely be considered the most important discoveries in medicine of recent years.

Dr. A. F. Schaefer of Bakersfield, California, working along lines of bacterial research, advanced these new theories of great importance. He believes that the animal body is at all times the host of a great variety of organisms and that it harbors these pathogenic bacteria without harm to itself during periods of physiological resistance at par, and in the absence of any solution of continuity. When the resistance is below par, or a solution of continuity of tissues occurs, these bacteria assume pathological significance.

Furthermore, he believes (and his belief is rapidly becoming universal among medical men) that all infections are mixed infections, that except in rare instances there is no such thing as infection by a single organism; that while one species may predominate, the pathogenic process engendered by it is accelerated and intensified by the complicating presence of other organisms of other species. In other words, that in the course of an infectious disease the symptoms are due not only to the effects of a single species of organisms (the specific infection), but to the influence of other organisms whose pathologic role is not insignificant, but which must be reckoned with in any successful scheme of therapeutics.

He points to the fact that the administration of bacterial vaccines to patients suffering from infection not infrequently fails of effect because the truth of the above assumption is not recognized, especially when the treatment, being based upon

the opsonic theory, consists in the use of a vaccine made from a single species of organism isolated from the patient. Bacterial Vaccines made from a single species of organism prove successful in many cases, but the multiplicity of "combined" bacterial vaccines now in use points to the rapidly developing conclusion that the great majority of patients require *something more* than treatment with a vaccine made from one organism; the success attending the use of bacterial vaccines made from a number of different species, even when used in cases apparently due to one species, points to the likelihood of this theory being correct.

It is obvious then that to be successful, any method of therapy must be directed against the secondary invaders as well as the primary causative factor and this theory is supported by practical experience, by exhaustive and long-continued laboratory and clinical work.

The therapeutic use of Phylacogens is based on this theory of multiple infections. The term "Phylacogen" is derived from two Greek words, "A Guard" and "To Produce"—means "phylaxin producer." Phylaxin is the name applied by Hankin to antitoxin or a defensive proteid found in animals that have acquired an artificial immunity to a given infectious disease. Phylacogens are neither bacterial vaccines nor sera, as ordinarily understood. They are sterile aqueous solutions of metabolic substance generated by bacteria grown in suitable media. The bacteria, first killed, are removed by filtration through porcelain. The bacteria-free filtrate containing suitable preservatives constitutes the Phylacogen.

Aerobic and Anarobic culture tests are made to determine the complete sterility of Phylacogen. Safety tests are made by injecting doses subcutaneously into animals. If the animals remain healthy, the product is passed. The degree of toxicity of the Phylacogen is carefully ascertained by means of experiments upon animals. The Phylacogens were injected subcutaneously, intravenously and intramuscularly and were given internally. The results indicate that the average minimum

lethal dose per kilo of body weight of animals is 11.90 Cc. From this it will be seen that the minimum lethal dose for the horse would be several thousand Cc. and that medicinally, the Phylacogen is practically non-toxic.

Experimental Test.

In order to obtain an abundance of clinical evidence to substantiate or refute the claims for the Pneumonia and Mixed Infection Phylacogen, for more than a year a series of searching critical tests has been carried on and large quantities of both Phylacogens was sent to skilled veterinarians in various parts of the United States. Extensive experiments were also carried on under the personal supervision of our own veterinarians at various stock yards and large sale stables in several large cities. A summary of records which were carefully kept of each case treated shows abundant evidence of the therapeutic value of Phylacogens, especially in those cases which do not respond to treatment with stock vaccines, serums, or antitoxins.

Immense progress has likewise been made in the treatment of human patients with Phylacogens. More than four thousand cases have been successfully treated with the Rheumatism, Pneumonia, Erysipelas, Gonorrhea and Mixed Infection Phylacogens.

It would require too much of your time to refer in detail to many of these case reports, which show remarkable therapeutic value of the Phylacogens. Suffice to say; the discovery of the opsonic and mixed infection theories pave the way for more important discoveries tomorrow. Practical experience is a wonderful teacher and I may safely say that there are within the sound of my voice veterinarians who could give much practical knowledge to advance the progress of these important therapies, but to accomplish this, we must each of us liberally discuss these important subjects, converting theories into facts and thus safeguard the mighty interests of the animal industry of this country, without which, we would cease to exist. In no way can we better advance the progress

of our beloved profession, and to this end, I invite liberal discussion of this paper.

ELECTION OF OFFICERS

Moved and supported that the nominations be made from the floor and the President appoint two tellers. Drs. G. W. Cronkite and J. E. Joslin were appointed as tellers.

Drs. G. D. Gibson and H. M. Armour were nominated for the office of President. Ballots were cast and a vote of 33 to 13 in favor of G. D. Gibson was the result of the count.

Dr. H. M. Armour—In view of the fact that Dr. Gibson has received the majority of the votes cast I move that the election be made unanimous. Carried.

The President declared Dr. Gibson elected.

Drs. R. P. Lyman, M. J. Smead and W. A. Haynes, being the only nominees for the office of First, Second and Third Vice President, it was moved and supported that the rules be suspended and the tellers cast the unanimous vote of the Association for Drs. R. P. Lyman, M. J. Smead and W. A. Haynes, for the office of First, Second and Third Vice President respectively. Carried.

The President so declared.

Moved and supported, that the rules be suspended and the tellers be instructed to cast the unanimous vote of the Association for Dr. W. Austin Ewalt as Secretary and Treasurer. Carried.

The President so declared.

Drs. H. L. Schuh and C. C. Mix, were nominated as first member of the Board of Directors. Number of votes cast 42, of which Dr. Mix received 29 and Dr. Schuh 13.

The President declared Dr. Mix duly elected as first member of Board of Directors.

Drs. H. M. Gohn, H. L. Schuh, Frank Amstutz, T. F. Krey and H. M. Armour, were nominated as second, third, fourth, fifth and sixth members of Board of Directors.

Rules were suspended and the Secretary authorized to cast the vote of the Association for the above named applicants, respectively.

The President so declared.

Election of officers declared closed.

REPORTS OF CASES

Dr. George Dunphy reported a case of embolism of the external Iliac; seen November last, characteristic symptoms present were great torture; horse would continue to strain in a peculiar manner. Post mortem revealed a plug with a very small opening, which allowed the passage of only a limited amount of blood. The doctor very strongly advised a careful diagnoses in cases of this kind.

Other cases were reported which presented symptoms similar to those described by Dr. Dunphy.

Prof. Lyman spoke of the advisability of making more examinations per rectum.

Prof. Schuh in reporting for the Committee on Intelligence and Education said there was not much of any report for this committee to make, and that in his opinion the committee should be abolished.

Motion was made and supported to refer back to the Committee on Illegal Practice. This brought out a lively discussion. Dr. C. C. Mix said the laws were fast becoming such in other states that compelled non-graduates to seek refuge in Michigan.

No definite action was taken, however, and the meeting was adjourned.

Tuesday, 7:30 p. m.

The annual banquet was held in the dining room of Hotel Wentworth.

The Male Quartet of the M. A. C., being a special feature this year, was enjoyed by all.

Prof. R. P. Lyman, of the M. A. C., presided as toastmaster. Dr. D. E. McClure, assistant secretary of the State Board of Health, in response spoke of the very close relationship that should exist between the State Board of Health and the veterinary profession. He emphasized the fact that a movement was in progress which tends to bring about a closer relationship between all professions. One thing necessary was public sentiment toward a healthy purpose.

President Snyder, of the M. A. C., expressed his pleasure of being present and spoke of the advancement of the veterinary profession and advised the veterinarian of today to magnify his opinion of his profession, in view of a higher appreciation from a public standpoint. He referred to the high standard of the veterinary division of the M. A. C.

Prof. M. H. Reynolds gave a very interesting and instructive talk on the subject, "The Relation the Veterinarian Should Bear to Live Stock Sanitary Control Work."

Dr. J. Black, who the members have the utmost confidence in and whose untiring efforts for the welfare and advancement of the profession in Michigan appeals to all, gave a very interesting history of the Association.

Dr. Dunphy, in his usual good-natured manner, spoke of our National Association.

H. H. Halladay, of the Live Stock Sanitary Commission, also responded after which the meeting was adjourned.

Wednesday, February 5th, 8:30 a. m.

The second meeting of the Executive Committee was held in room 310, Hotel Wentworth. This committee to whom was referred the recommendations made in the president's address would report as follows:—

Moved and supported, that we recommend the appointment of a publication committee of three members to publish the proceedings of this meeting and hereafter, and mail a copy to all members and to all persons eligible for membership in Michigan. Carried.

Moved and supported, that the Secretary provide an enrollment book to be used in lieu of roll call. Carried.

Moved and supported, that all matters that can be, be referred to proper committees, who will report accordingly. Carried.

Moved and supported, that the President appoint a committee to revise, compile, and copy the By-Laws, and report to the publication committee, to be acted on at the next regular meeting. Carried.

Moved and supported, that the President appoint a resident secretary in each congressional district. Carried.

Moved and supported, that we recommend and provide for a summer meeting, for social and clinical purposes. Carried.

Moved and supported, that the articles of incorporation be changed so that meetings may be held at any place in the state, at the discretion of the Executive Committee. Carried.

Meeting adjourned.

Wednesday, 9:30 a. m.

The President called the meeting to order and the Secretary read the report of the Executive Committee. Upon motion duly made, voted on and carried, the resolutions recom-

mended by the Executive Committee, were approved and adopted as read. It was further moved and supported that the President appoint a committee of two, to look after and provide for summer meeting. Carried.

Drs. Dunphy and Smead were appointed as such committee.

Dr. Ward Giltner, Chairman of the Committee on Diseases, was called upon for his report, and in response called upon Dr. M. H. Reynolds, who gave a paper on Hog Cholera Serum Work.

PAPERS AND DISCUSSIONS

HOG CHOLERA SERUM WORK

By Dr. M. H. Reynolds, Minnesota State University

I have thought best to confine my remarks to a study of disappointments in connection with hog cholera serum work. I believe the statement quite conservative and justified by abundant evidence, that hog cholera serum has become an established thing; that good, clean, potent serum, intelligently used and carefully administered, is a practical thing and a reliable preventive for cholera. There is plenty of evidence accumulated from all over the United States to justify such a statement. On the other hand we all know that there is constantly developing a serious number of disappointments and a lot of dissatisfaction.

Our results in Minnesota are not always ideal, nor do I believe that they are ideal anywhere. We certainly get the most astonishingly different results in field use from exactly the same lot of serum and exactly the same virus but in different herds and in the hands of different veterinarians. In our experience it has been rather easy in most cases to locate the trouble and to get a simple satisfactory explanation. In a few

cases occasional trouble develops where there is no obvious, simple explanation and it is probable that some very complex questions in physiological chemistry might be raised.

I am quite sure that the only wise or safe policy for any state plant producing serum, or for that matter, for any plant producing hog cholera serum, is one of frankness and fairness toward veterinarians who use serum, and farmers who own the hogs. In Minnesota we make it a uniform practice to tell owners very freely just what our results have been. We give them any information that may be desired. We give any advice which seems proper as to method or season, or dosage, but in every case the owner must use serum, after receiving this information, upon his own responsibility.

In most cases the explanation for disappointments can be found in one or more of the following conditions: The farmer delays too long in arranging for serum treatment after trouble has appeared in his herd. Trouble may come as a result of careless or unwise handling and exposure of serum. It may leave the laboratory clean and potent, but enter the hog's body very unclean surgically, although still fully potent. I think there is no question but that a great deal of impotent serum has been distributed during the past year, very unwisely, of course. Serum or virus may either one be contaminated before or after shipment or the veterinarian may do a very dirty job of administration. I have personally seen some astonishing results from surgically dirty procedure in this work. Other disappointments are due to errors in dosage, either of serum or virus. I know of one case of disappointment and loss from inoculation cholera where I have always believed that the veterinarian administered virus by drams instead of by Cc. with an uncertain dose of serum. Some disappointments and losses are due to the manner of handling or violent exercise of hogs after the disease processes have become well established, particularly after the hogs are quite feverish. I have known cases where hogs died within a very few hours after administration of serum when I felt quite sure that they would

have died with the same handling had rain water been used instead of serum.

When cholera develops in about two or three weeks after serum-virus treatment, it is usually due to the use of too small a dose of serum or impotent serum in connection with a full dose of virulent virus.

Disappointments in some cases are due to the unwise use of serum and I believe that it is nearly always unwise to administer serum—only to unexposed, uninfected hogs, because of the short protection given.

In two cases I have seen serious trouble arise where veterinarians administered serum and were apparently attempting to make speed records.

I mentioned astonishing variations in results from the same batch of serum or virus. To illustrate this, I remember one incident where a certain lot of tested serum was used on University Farm hogs with perfect results. Other portions were sent at about this time to two different veterinarians. One of these men treated by the serum-virus method something like one thousand healthy hogs, with less than 2 per cent loss. The other man using the same serum and the same virus on healthy hogs lost twenty-three out of twenty-nine, apparently from inoculation cholera.

I think there may be a rather important question raised as to who may properly administer serum alone and who may properly administer serum with virus. There can be no question but that the administration of serum only should be in the hands of competent and well-trained veterinarians as far as may be practical under any given circumstances. So far as the administration of virus with serum is concerned, I believe that this should ordinarily be restricted to veterinarians in direct State employ and not be administered at all in healthy herds in clean neighborhoods without an exceedingly good reason for such action.

I can imagine rare conditions under which an owner who should really be permitted serum-virus treatment of his herd

would be unable to have the benefit of such treatment under the restrictions which I have recommended, but nevertheless I think there is no question but that these general propositions should hold true.

As to whether serum should be produced by the state and distributed gratis on the ground that it is a police control measure in which the entire public is interested or whether the State should produce serum and sell at approximate cost of production, these are questions the solution of which may depend largely upon local conditions. I think that ordinarily the preference should be given to the method of the self-supporting institution, the serum being sold at the lowest possible cost. If a plant could be subsidized by the State so as to sell at one-half cent per Cc. or even less, it would result in much more extensive use of serum and greater results in the way of control. When serum is distributed gratis, it is very difficult to put satisfactory restrictions upon its distribution and administration:

PATHOLOGY OF HOG CHOLERA

By E. T. Hallman, D. V. M., East Lansing

I do not intend to give you a talk on the pathology of hog cholera. This subject is such a broad one that I could not do it justice in the short time allotted to it. Even with more time, I do not believe it would be the best use of that time. Its discussion would include not only the gross anatomical lesions seen in the disease, but also the histological and physiological changes of the various organs.

I believe that the best possible use of the time given me will be to enumerate some of the gross anatomical changes by which we are able to recognize the disease, and of even greater importance to emphasize the necessity of familiarizing yourself with these changes. I do not expect to teach you how to observe lesions and come to conclusions. This can be learned

only by hard study of the cases you have. In enumerating the lesions of cholera, I do not expect you to remember them, but rather give them for your entertainment, and I shall not be disappointed if you go away from here knowing no more about the pathology of hog cholera than when you came. I shall be disappointed, however, if some of you do not have a greater appreciation of its importance.

The relation of the veterinary profession to the live stock interests has already been spoken of by Prof. Reynolds. Let me repeat that it is to protect that interest not only from the sporadic diseases that makes the larger part of your practice, but also from epidemics such as hog cholera. The practicing veterinarian is often called upon for advice regarding the infectious diseases of animals, and usually the fee for such advice is insignificant, and should be, but when useful advice can be given there is a greater return in the nature of an increased appreciation of your services on the part of the farmer.

The only practical way of making an early diagnosis of hog cholera, or most any other infectious disease, is from the anatomical lesions. No one can make an early diagnosis from clinical symptoms in the majority of outbreaks, consequently we should familiarize ourselves with the gross anatomical lesions peculiar to the most common infectious disease.

As an introduction to a brief outline of the lesions of hog cholera, let me say that I make no distinction between hog cholera and swine plague. I have met with some opposition on the part of the local veterinarians on account of this fact, they calling certain outbreaks swine plague that I had diagnosed as cholera.

In passing, I might say that some regard ulcers of the caecum, colon and engorgement of the spleen as predominant anatomical features of cholera and pleurisy, pericarditis and pneumonia as predominant anatomical features of swine plague. The above classification is absolutely incorrect and is based upon the erroneous idea that cholera is an intestinal disease. Cholera is not an intestinal disease but is a septicaemia.

The lesions of cholera are of the nature of a hemorrhagic septicaemia, or, in the chronic form, an ulcerative enteritis and enlargement of the adjacent lymph glands. Animals dying within one to two weeks may or may not show a purplish discoloration of the ears, snout and skin along the ventral aspect of the body. The lungs may show a few petechiæ or ecchymotic hemorrhages on the surface and deeper into the parenchyma, or there may be little or considerable pneumonia in one or both lungs. The bronchial and mediastinal lymph glands may be only slightly injected in the capsule and cortex or they may be considerably reddened and swollen throughout. There may or may not be petechial hemorrhages on the pleura and pericardium. Under the epicardium, especially that covering the auricles and near the auriculo-ventricular ring, and under the endocardium may be seen petechial hemorrhages. The peritoneum, both visceral and parietal, may or may not show petechial hemorrhages. The mesenteric and nuso-colic lymph gland may show injection of the capsule and cortex or they may be swollen and engorged throughout. There may or may not be petechiæ and ecchymotic hemorrhages on the musoca of the stomach, and intestines. The liver usually shows evidence of fatty degeneration. The spleen may be enlarged as a result of engorgement with blood. Often it is apparently normal.

The lesions of the kidney are variable. At times, they may show numerous petechial hemorrhages under capsule and in the cortex and medulla. At times, there may be only congestion without observable hemorrhages, and at times they may be apparently normal. The renal, superficial and deep inguinal and the retroperitoneal lymph glands may be injected. In the more prolonged or chronic cases, the only observable lesions may be a few ulcers in the caecum and colon and occasionally in the stomach, and an enlarged oedematous condition of meso-colic and inguinal lymph glands. In these cases, the animal is usually considerably emaciated.

Very few cases show all of the lesions enumerated as occurring in the acute form. The extent of the lesions found

is not necessarily an index of the degree of seriousness of the attack.

Some animals may show an almost complete absence of lesions. A hog may be ever so sick and at autopsy may show only a few reddened lymph glands and perhaps a few pneumonic areas in the lungs.

In conclusion, I wish to say that this is the most serious and most common infectious disease of swine. Often herds are completely wiped out. There is no effective treatment that we know. If diagnosis is made early, serious loss may be prevented. An early diagnosis can only be made in the majority of outbreaks by studying the post-mortem lesions of the affected hogs.

HOG CHOLERA SERUM PRODUCTION

By W. S. Robbins

Hog cholera serum, commonly known as Dorset-Niles serum, hyper-immune serum, and anti-hog cholera serum, is a serum taken from hogs, having been hyper-immunized to cholera virus and is used only as a preventive. This serum may possess some curative powers; however, we know very little of this at present.

The first essential to be considered in manufacturing hog cholera serum is a good strain of virus. This may be secured by taking a sample of blood from an animal suffering from the disease and if weak, pass it through several small pigs successively until it attains such virulence that when injected into susceptible pigs in two cubic centimeter doses will produce good cholera symptoms in from four to six days and produce death within fifteen days.

Next we must have healthy susceptible pigs for virus pigs, weighing from fifty to one hundred pounds. These are each inoculated with 2 to 5 Cc. of virus. These animals must have a very virulent form of the disease within fifteen days

from date of inoculation. At this time, the blood is drawn by severing the carotid artery. The blood is collected in sterile vessels, defibrinated and is then ready for use in hyper-immunizing. The average amount of blood secured from virus pigs is about ten cubic centimeters per pound of body weight. To utilize the virus pig for virus other than virus blood, I have used salt solution recovered from abdominal cavity, having been injected at rate of 25 Cc. per pound of body weight five to six hours previous to killing the animal. This virus saline solution has proven very efficient in hyper-immunizing animals and increases the amount of virus secured about 150 per cent.

Animals used for hyper-immunes usually weigh from one hundred to three hundred pounds. Unless naturally immune, they are actively immunized by vaccination. In ten to fifteen days after this treatment, they are ready to be hyper-immunized.

In hyper-immunizing, the virus is injected by means of a sterile aspirator apparatus by one of the following methods:—

Slow Subcutaneous Method—By this method, the virus is injected in gradually increasing doses usually at intervals of one week until a total of $8\frac{1}{2}$ to 10 Cc. per pound of body weight has been injected.

Quick Subcutaneous Method—By this method 10 Cc. per pound of body weight is injected in one dose.

Intra-abdominal Method—By this method, 10 Cc. per pound of body weight is injected intra-abdominally at one dose.

Intravenous Method—By this method virus is injected into the ear veins at rate of 5 Cc. per pound of body weight at one injection.

One week after hyper-immunization, these animals are bled from the arteries of the tail at rate of 5 Cc. per pound of body weight. These bleedings are repeated at intervals of one week until three have been made.

After third bleeding, hyper-immunes may be rehyper-immunized by injecting about one-half original dose of virus. Three bleedings may then be carried out as before.

When the bleeding qualities of hyper-immunized animals have exhausted, they are slaughtered and all of their blood collected.

The blood secured from all bleedings is defibrinated as soon as drawn, by whipping with glass rods and is then preserved by adding 5 per cent of phenol. When the last bleeding from an animal is secured, all bleedings from each animal are mixed and kept at a temperature of 5 degrees to 10 degrees C.

This serum is tested by simultaneous inoculation of virus and serum on susceptible pigs weighing from fifty to one hundred pounds.

Our serum is distributed mostly directly to the farmer or to anyone caring to use it, at rate of two cents per Cc. for serum and one cent per Cc. for virus.

There are two methods of using serum in the field:—

First, the serum-alone method by which a regular dose of serum (which is 30 Cc. for a one hundred pound hog) is injected intra-muscular into the ham.

Second, the simultaneous method by which in addition to a regular dose of serum a dose of virus ($\frac{3}{4}$ Cc. for one hundred pound hog) is injected into opposite ham.

By the serum-alone method a very short period of immunity is conferred while by the simultaneous method the immunity conferred is more permanent. The period of immunity conferred by either of these methods varies greatly with size and age of pigs when treated.

Field conditions must always be considered before deciding which method of treatment to use on any herd. Thus the operator must be able to exercise good judgment with each case individually. For instance it is very dangerous to use the simultaneous treatment during the breeding season for we have

had considerable loss by treating pregnant sows simultaneously. Although the sows remain apparently healthy, they will in a large per cent of the cases abort, and on autopsy of pigs, we find cholera lesions. Thus it seems that cholera is transmitted from mother to pigs by fetal circulation. Again, it would seem very unwise to actually inoculate premises where there was no infection and where there was little danger of infection, by administering simultaneous treatment. This latter case would probably be found only in small farm herds.

We are greatly in need of assistance from veterinarians who are familiar with hog cholera to aid in controlling this dreaded disease by means of the serum treatment.

This subject brought out a lively discussion. Dr. J. C. Whitney, in giving his experience with the use of the serum, said he had met with a considerable amount of success, especially where the experiment station serum had been used.

Dr. C. C. Mix, who took part in the discussion, also favored the use of the serum, provided the cases were taken in time.

Prof. E. A. A. Grange gave his early experience of hog cholera in Michigan. He mentioned cases of alkaline poisoning, which symptoms very much resemble those of hog cholera. Dr. M. J. Smead spoke of a great loss of hogs in his district that had been fed on refuse; Dr. H. M. Armour gave his experience. Prof. M. H. Reynolds spoke of the peculiarity of the disease owing to the variety of conditions regarding the lesions, and advised twice the dose for those affected as would be given for preventative. He emphasized the fact that the serum should not be used unless very positive of the necessity. Immunity perhaps remains longer in young pigs; however the age does not interfere with the use of the serum. Dr. H. W. Nobles also took part in the discussion as did Dr. Jos. Hawkins.

Next in order was some very interesting cases reported by Dr. C. C. Slaght.

SOME INTERESTING CASES

By C. C. Slaght, D. V. M., Macon

Mr. President and Gentlemen — It is not my intention to present anything in the way of scientific explanation of the cases which follow, although some of the statements may seem extraordinary, it is my wish to state facts.

Case No. 1—An aged driving horse, while running away, collided with a board fence and received a puncture from a sliver. The external opening was small but the wound extended backward and upward along the left side of the sternum nearly a foot. Nothing foreign was found by probing. The wound was dressed and well cared for and seemed to be doing nicely for sometime; then small slivers began to come to the surface. After a time abscesses formed on the external face of the scapula and these discharged pus and slivers.

These conditions continued for about three years. At this time only the original opening was discharging. This continued about two years more.

The owner decided to kill the horse and we examined him and found lodged against the anterior border of the shaft of the scapula, two thin flat pieces of wood, each about one inch square. A very small opening into the old wound gave vent to the small amount of pus.

Case No. 2—A horse gored in the side by a bull. The horn punctured the skin, struck a rib and glancing over two more penetrated the pleural cavity. At every breath air bubbles oozed from the wound in the skin.

A compress was placed over the puncture in the chest wall. The skin puncture was left open; a slight attack of

pleurisy was the only complication and the wound healed rapidly.

Case No. 3—A colt but a few hours old was colicky but did not respond to treatment and soon died. Some of the symptoms were peculiar and to determine the cause a post-mortem was in order.

Dissecting the intestine forward from the rectum it ended, on the posterior face of the stomach, in a closed point. It was loosely attached to the stomach by the mesentery. The stomach, double colon and ceacum were connected but had no posterior opening.

Cases No. 4 and 5—These were twists of the double colon. In the first the twist was to the left of the diaphragmatic flexure; in the second to the right of the flexure.

Case No. 6—This was a puzzle, and the post-mortem lesions were complicated. The colt was coming three years old and from a suckling had required treatment several times. At first it had an attack of rheumatism, but survived and did very well while in pasture, but through the winter it had attacks of colic. The second year on pasture it seemed all right but began having colic again when in for winter.

The fatal attack appeared to come from millet hay as a roughage ration, but the post-mortem lesions did away with that theory. The spleen was divided into two unequal parts the larger, posterior, was firmly attached to the abdominal wall and loosely to the anterior portion by the mesentery, the anterior portion was attached to the liver by a strong band; apparently an elongation of a lobe of the liver, about one foot long, two inches wide at the liver and one inch at the spleen.

The double colon forced under the liver band instead of reaching the right flank had turned back on itself along the face of the diaphragm till it passed under the esophageal opening to the stomach. Very little inflammation or congestion

was seen anywhere in the bowels. The pulse was at no time perceptible and in looking for a cause for this symptom a tumor-like growth was found at the junction of the mesenteric blood vessels with the aorta. The mesenteric vessels were nearly closed. The nucleus of the tumor seemed to be a grayish blood clot. Closer inspection revealed many small red worms in the substance of the tumor and in the nucleus.

This post-mortem is the limit for the complicated lesion in my experience. Did the worms cause the tumor growth? What ruptured the spleen and how long could it have been done? Were the previous attacks of illness due to any of the lesions found?

One symptom seemed to be common to these three cases of colon trouble. Whenever they lay up in a natural position each one would place the fore feet out in front, raise the sternum off the floor a few inches and give a forward jerk to the body without moving the hips from their place on the bed. This movement was made in each case very often.

A few days before treating the above case I was called to hold a post-mortem on a yearling colt which had died suddenly after about three hours' illness. In this case all larger vessels of the mesentery were clogged by clots and each clot contained one or more worms. Worms in large numbers were found, in both large and small intestines, mixed with the fetal matter which was very soft and contained much blood.

Dr. G. W. Cronkite then gave his treatment for azoturia, advising the use of potassium bromide, together with ounce doses of albumin. This subject was discussed by Drs. Whitney and Slaght.

Following this came the much appreciated and instructive address by Prof. M. H. Reynolds, entitled, *The Tuberculous Cow in Relation to Human Health*.

THE TUBERCULOUS COW IN RELATION TO HUMAN HEALTH

*By Dr. M. H. Reynolds, Minnesota State University
and Live Stock Sanitary Board*

In this talk I would like to call your attention to four points:—

First—That tuberculosis is a prevalent disease among cattle.

Second—That there are constantly operating abundant and frequent opportunities of transfer from bovine to human.

Third—Evidence of virulence for the human, of tubercle bacilli from the bovine.

Fourth—That human tuberculosis of bovine origin is sufficiently common to demand recognition and public interference.

Prevalence—I have the impression that the prevalence of bovine tuberculosis is not usually appreciated by physicians and sanitary workers in the human field, and feel that I should first of all emphasize this matter of prevalence. We have more or less of it all over this country where there are cattle; more prevalent, of course, in city dairy herds and in pure bred herds; less prevalent under range conditions, but it exists—more or less of it—practically wherever there are cattle.

Wherever there are tubercular cattle there are tubercular hogs, as a very general rule. In fact it has come to be recognized in recent years that a herd of hogs intimately associated with a herd of cattle gives a very reliable means of diagnosing tuberculosis among the cattle of that farm.

Abundant statistics are easily available showing prevalence of bovine tuberculosis in Massachusetts, Maine, New

York, Pennsylvania, Maryland, Minnesota, Wisconsin, Nebraska and other States. From these States we have reliable evidence that should be accepted as satisfactory by any scientific man for the prevalence of tuberculosis under all possible conditions of breeding, stabling, and even lack of stabling.

The following figures may be startling to those who have not been studying this question. I quote from reports of the Federal Bureau of Animal Industry:—

**CATTLE AND HOGS INSPECTED AND CARCASSES
CONDEMNED 1901 AND 1905**

*Bear in mind that approximately one-half of tubercular carcasses
are condemned; i. e., one-half of tuberculin reactors*

1901		
CATTLE	{ Carcasses Inspected	5,219,149
	{ Carcasses Condemned	6,454
1905		
CATTLE	{ Carcasses Inspected	6,096,597
	{ Carcasses Condemned	10,956
1901		
Hogs--	{ Carcasses Inspected	24,642,753
	{ Carcasses Condemned	8,650
1905		
Hogs--	{ Carcasses Inspected	25,323,984
	{ Carcasses Condemned	64,919

The following table shows the number of animals of each kind slaughtered under government inspection during the fiscal year ending June 30, 1908, and the number and percentages found affected with tuberculosis. Note in hogs and cattle going to market an enormous increase, in proportion, of the tubercular:—

	Number Slaughtered	Number Tuberculous	Percentage Tuberculous
Cattle.....	7,116,275	68,395	0.961
Hogs.....	35,113,077	719,309	2.049

The comparison here is on a somewhat different basis from the preceding for years 1901 and 1905. In the one case

"carcasses condemned," in the latter "proportion found tuberculous."

The actual situation is undoubtedly better than these figures would indicate, for the inspection was probably more rigid and careful in 1905 than in 1901 and better still in 1908. The inspection of swine carcasses has been much more thorough during the past few years. Further, the number of known tuberculous cattle sent to the abattoirs has increased greatly on account of rapidly enlarging state and municipal work with the tuberculin test.

But the critical student of the tuberculosis situation will soon convince himself that these considerations do not explain the difference between the figures of 1901 and those of 1908, nor for any similar period that might be selected.

I presume the best general statement now available as indicating the general prevalence of tuberculosis among cattle is one made a few years ago before an international congress on tuberculosis by Dr. Melvin, Chief of our Federal Bureau of Animal Industry. This was to the effect that during a period of fifteen years preceding 1908 they had received reports of 400,000 tuberculin tests from all over the country. These showed on a large average 9.25 per cent reactions. Veterinary sanitarians will all agree that this is higher than would be shown if it were possible to test all cattle of the United States at any one time, for the reason that while much of the testing was done indiscriminately in the course of city and state work, some of it was done with herds that were already suspected and therefore presumably in bad condition.

It may be interesting to note how Minnesota stood in this series of 400,000 tests collected by government officials. Including only individual states from which 1,000 or more tests were taken, the average percentage of tuberculin reactions ranges all the way from the lowest figure, 4.56 per cent for Maine to 25.14 per cent for New Jersey. Minnesota's showing is 4.99 per cent, Vermont shows 6.54 per cent and Massachusetts 13.75 per cent.

In the course of some work at the Minnesota Experiment Station a few years ago I had occasion to study the prevalence of bovine tuberculosis under specific conditions of stabling and breeding. We investigated the stabling and breeding of something over 3,500 cattle tested with tuberculin, with a showing of results that should be interesting to those engaged in the work of sanitation. Yet the actual conditions correspond very closely with what any well informed person should expect.

	No. Cattle Tested	No. Re- actors	P. C. Tu- berculous
Native.....	2839	223	7.8
High grades.....	157	17	10.8
Pure breeds.....	258	41	16.6
Fair ventilation.....	1087	67	6.1
Poor ventilation.....	1210	201	16.6

Minnesota's showing for the year ending August 1, 1908, was for pure bred cattle tested, 1,329 of which 36.8 per cent reacted. Of grade cattle there were tested 25,887 of which 7.7 per cent reacted. The average percentage of reactions among cattle for the year, regardless of breed, was 9.3 per cent. I would call attention to the very close agreement of Minnesota's average for this year with the general average for the United States, 9.25 per cent for the fifteen-year period reported by Dr. Melvin.

Under the new law, which took effect January 1, 1910, ordering official tuberculin test of pure bred cattle sold for breeding purposes, there were tested during the first seven months 3,035 cattle with 11.2 per cent reactions. For the following year which began August 1, 1910, 1,717 cattle were tested of which 1,214 were given their second test with only .9 per cent reactions. These figures quite plainly suggest the serious prevalence of tuberculosis among pure bred cattle and the possibility of controlling the disease in this particular class of cattle.

Admitting that tuberculosis is a common disease among cattle there is required only a little knowledge of bovine tuberculosis, a bit of practical knowledge of cows and stables and an

ordinary measure of common sense to realize that there are in constant operation, easy and frequent means of transfer from the bovine to the human.

Abundant Opportunity and Means of Transfer To the Human.

It is a matter of common knowledge among veterinarians and pathologists in general that cows have open lesions of the respiratory organs; that cows do cough and spray out material from the mouth and pharynx; that cows, unlike horses and some other animals usually or always swallow any discharge reaching the nose or pharynx. Any infection in this material is, of course, liable to be discharged in the feces. It is equally well known that cows have open tubercular lesions of the intestines which constantly and certainly infect the bowel contents. It then becomes just a matter of plain common sense to see how easy it is to develop a general contamination of mangers, feed boxes, atmosphere, and stables in general from cough or from bowel discharge or from both.

Contamination of milk is a disagreeable phase of the question but one which should not be ignored in this discussion. Some tubercular cows have been proven beyond question to pass virulent tubercle bacilli from the bowels. In our own experimental work at University Farm, Drs. Reynolds and Beebe* found one cow, a fat and very handsome pure bred polled Angus cow that was constantly passing abundant and virulent tubercle bacilli in the manure. We were able to reproduce tuberculosis in guinea pigs at will by simple direct inoculation from a cotton swab thrust into the nostril; in other words, the nasal secretion and the feces of this cow were both constantly distributing virulent tubercle bacilli.

Schroeder has reported in detail work showing beyond question that tubercular cows do pass virulent tubercle bacilli in the bowel discharge. Everyone who is at all familiar with

*Dissemination of Tuberculosis by the Manure of Infected Cattle, Minnesota Experimental Station Bulletin No. 103.

cow stables and milking, knows how extremely easy it is for fine particles of dry manure from the tail or flank or udder to gain access to the milk pail; in fact some little care in the way of wiping with damp cloth is necessary to prevent this. The suggestion is obvious. Granted a tubercular cow giving milk and it does not require a very vivid imagination to trace a virulent bovine tubercle bacilli from the cow to the susceptible child from whom raw cow's milk constitutes the sole or most important article of diet.

The British Royal Commission agrees in its final report with statements of many individual workers on another point that has become a matter of common knowledge among intelligent veterinarians; namely, that bovine tubercle bacilli are almost certainly found in milk from udders having tubercular disease; and that virulent bovine tubercle bacilli may and frequently do appear in milk from tubercular cows having apparently quite normal udders. This, of course, does not say that such bacilli always come through the udder. The contamination may occur in the pail.

We can safely assume that cows are frequently tubercular; that they have open lesions; that there are frequent and easy opportunities for transfer. Are tubercle bacilli from the bovine virulent for the human?

Virulence of Bovine Bacilli For the Human.

Types of Bacilli—The British Royal Commission in its final report, 1911, recognized three types: human, bovine, and avian. This grouping is commonly accepted and has been for several years. The avian type has no important bearing in this discussion. Leaving this out of consideration this Commission states plainly that it prefers to regard the two types; i. e., the bovine and human type of the bacillus as simply environmental variations of the same bacillus and the lesions which they produce are regarded as manifestations of one disease. They experimented with a large variety of animals and say

that the disease produced in susceptible animals by both types of the bacilli are histologically identical.

They report in plain words investigations of many instances of fatal tuberculosis in the human where the disease was undoubtedly caused by bacilli of the bovine type and that alone. Comparing these lesions histologically and otherwise with similar fatal cases due to bacilli of bovine origin, they conclude that the lesions were anatomically indistinguishable. This great Commission after years of study unhesitatingly adds man to the list of animals notably susceptible to bovine tubercle bacilli.

Referring to variations in virulence of tubercle bacilli at the International Congress on Tuberculosis four years ago, Arloing, a great Frenchman, made the following statement:—

“From the standpoint of hygiene, they emphasize the unity and fusion of the classic types and demonstrate the necessity of taking precautions against the tuberculous virus, whatever may be its origin.”

At the same congress Fibiger and Yensen of Copenhagen, announced the following conclusions in connection with an address on the relations of human and bovine tubercle bacillus:—

“There are some cultures, however, that must be considered as transition forms, having some of the characteristics of the bovine and other of the human type.”

There is available plenty of clinical evidence of intertransmission. Repp collected a series of thirty-two human cases of tuberculosis from the bovine. These had been carefully studied and accepted by such men as Hills, Denne, Ernst, Pfeiffer, Law, and Ravenel as evidently due to bovine bacilli. In the judgment of these men the circumstantial evidence was so clear and so complete as to give a strong probability that the cases were due to infection from the bovine. Plenty of such collections are available. There are pages and pages available for anyone who wishes to study this question.

Moss,* of Johns Hopkins University, has collected and reports sixteen cases of cutaneous infection in the human in which either the bovine bacillus was found or case histories and clinical evidence gave a clear and strong probability of bovine origin. These sixteen cases were studied and accepted by such men as Tschering, Smith, Ravenel, DeJong. In this same series collected by Moss are forty alimentary tract cases in the human. These cases were studied and accepted by such men as Ernst, Adami, Ever, John, Ravenel, Bang, Klebs, Bovaird. In addition to these skin and alimentary cases there are plenty of cases of cervical adenitis with laboratory demonstration of bovine bacilli origin.

The British Royal Commission has given us several interim reports and a final report after years of work. The German Royal Commission and other commissions have reported after apparently unbiased and competent study of these questions. Their reports are easily available, their statements positive and clear.

The final report of the British Royal Commission in 1911 presents information which sanitarians can not reasonably belittle or ignore. This Commission had set for its task to inquire and report:—

First—Whether the disease in animal and man is common and the same.

Second—Whether animals and man can be reciprocally infected with it.

Third—Under what condition, if at all, the transmission of disease from animal to man can take place and what are the circumstances favorable or unfavorable to such transmission.

It was evident from the start that answers to these questions which could be accepted by scientific medical men must

*The Relation of Bovine to Human Tuberculosis, Johns Hopkins Hospital Bulletin 20, No. 215.

be based upon work conducted on a large scale and through a long period of time. Animal work was conducted upon actual farms with actual cattle as well as in the laboratory.

In their first interim report, issued in 1904, the Commission stated that they had inoculated cattle with bacilli of the bovine type derived from the human and produced generalized tuberculosis in the bovine.

In their second interim report of 1907, it was shown that fatal cases of human tuberculosis had been proved due to bacilli typically of the bovine type but added that all cases examined up to that time were abdominal tuberculosis and occurred in infants and children.

The final report of 1911 states that it has been proved that fatal cases of phthisis in the human adult may be caused by typical bovine bacilli. You will remember that Dr. Koch, after his memorable address of 1901, conceded in 1908 that fatal cases of mesenteric tuberculosis might be caused in children by bovine type bacilli; but still insisted that all cases of phthisis in the adult were due to bacilli of the human type.

The British Commission recognized in its final report in positive statement that man is clearly susceptible to at least two of the three types of tubercle bacilli; i. e., to the bovine and human.

A summary of cases studied and presented by this Commission shows in one connection 128 cases of tuberculosis in the human adult. Very few lung cases in this list were referable to the bovine tubercle bacillus but their report for abdominal tuberculosis and especially for children was very different. Nearly one-half of the studied cases in young children which died from primary abdominal tuberculosis were attributed to the bovine bacillus alone.

Some of the best work that has been done by those who are studying this question has come from the Research Laboratory of the Department of Health, New York City. I can only call your attention here to a few features of one of the

latest reports from Dr. Park and his associates. This appears in the *Journal of Medical Research* for September, 1912.

In a careful study and tabulation of cases reported by others, they have summarized a study of 252 tuberculosis children under five years of age. Of these 252 there were 201 due to the human type of bacillus and fifty-one to the bovine type of the bacillus, about 20 per cent due to the bovine type. Park and his associates had already reported a study of 478 cases of human tuberculosis and in this later publication they have combined their 478 cases with those previously mentioned as reported on by others. The combined showing is a total of 1,511 cases of all ages. There were 368 cases among children under five years of age. Of these 368 cases 292 were due to bacilli of the human type and seventy-six to bovine tubercle bacilli, if there be two distinct varieties. If on the other hand we accept the unity of tubercle bacillus, then tuberculosis of the bovine becomes at once identical with human tuberculosis. You see it makes no difference which horn of the dilemma may be taken by the man who belittles the importance of bovine tuberculosis. He can have his choice and accept on the one hand two types with 20 per cent of the cases in children under five years of age reported by others and accepted by Parks and his associates and a trifle over 21 per cent in the combined series of 368 cases in children under five years of age; or he may accept the unity of the bacillus and identity of disease.

The location of tuberculosis due to bovine infection as shown in this recent study by Parks is interesting. Suppose we omit from this study by Parks and associates all but the fatal cases in children under five years of age, a comparison of infections with bacilli of human and bovine types shows as follows:—

The following figures are for total cases reported and exclude mixed infections:—

Of total thirteen cases of abdominal tuberculosis in children under five years of age there were three due to the human type and ten due to the bovine type of bacillus.

Of generalized tuberculosis of alimentary origin in children under five years of age, thirty cases, there were sixteen due to bacilli of human type and fourteen for the bovine.

Of sixty-nine cases of generalized tuberculosis, regardless of origin there were due to the human type bacilli sixty-four; bovine five.

Of fifteen meningeal cases, secondary to tuberculosis of alimentary origin there were due to human type bacilli five and bovine ten.

This series of 237 cases includes ninety-one fatal cases in young children investigated by Parks and his associates added by these workers to those previously reported by others. In their own series of fatal cases of non-selected tuberculosis in children under five years of age 12.5 per cent were due to bovine infection. In their list were included nine cases from a foundling asylum and fed exclusively on cow's milk. Of this particular group five were plainly of bovine infection.

In view of the present information it appears to me surprising and regrettable that health officers and even practicing physicians should ever be inclined to ignore or belittle a reasonably probable, important relation between bovine and human tuberculosis. This is surprising in the fact of a large amount of carefully reported statistics and practical clinical experience. If it can be shown as it undoubtedly has been, that a few or any cases of human tuberculosis are due directly to infection from bovine, it seems logical and reasonable to infer that these persons are not immune and that there must be others susceptible. A disease or an infection which destroys any human life is of itself a serious matter and can not be reasonably ignored.

Frazier reporting from the Research Laboratory, Royal College of Physicians, Edinburgh (see *Journal of Experimental Medicine* for October, 1912), presents a study of the relative prevalence of human and bovine type of tubercle bacilli in bone and joint tuberculosis of children.

He reports for a total of seventy cases studied. All were of children under twelve years of age with exception of three cases. Of the total seventy cases thirty-nine were joint diseases, thirty-one bone diseases. Each individual case was worked out systematically along lines that are fully reported.

Of the total seventy cases the bovine bacillus alone was present in forty-one; the human bacillus alone in twenty-six. Both forms were found in three cases.

The associated study of age, family history, milk supply, and environment is interesting. This series of cases is significant because the study is confined to a specific age limit. Associated family histories showed for children under one year, four cases, all four due to bovine bacillus.

One to two years, twelve cases, eight due to bovine, two to human, two bovine and human.

Two to three years, fifteen cases, eleven to the bovine and three to the human type of bacillus, one, bovine and human. After three years of age the proportion due to human bacillus gradually increases. In this series there were no more cases due to mixed infection with both types after three years. This, of course, may have been merely a co-incidence.

The family histories gave interesting data. Where there was family history of tuberculosis 71 per cent of the cases were due to the bacilli of human type. Where there was no family history of tuberculosis, only 17 per cent were due to the human type and approximately 82 per cent of the bovine type.

So far as the milk supply was concerned it is shown in this study that there were a number of children less than one year of age that had been nourished entirely upon cow's milk and in these cases only the bovine bacillus was found. In the total twelve cases under two years of age there were eight due to bovine bacillus and each had been fed from birth upon cow's milk.

The general conclusion is that a serious proportion of bone and joint tuberculosis among children in Edinburgh is due to the bovine bacillus coming from cow's milk.

At the Seventh International Congress on Tuberculosis held in Rome, early in 1912, Calmette reported some extensive studies concerning the prevalence of tuberculosis in the human, according to age. In the course of Calmette's studies he conducted certain experimental work with calves. In this he tried to follow as closely as possible the probable methods of infection for the human.

The general conclusions of this work with calves indicates a very strong probability that tuberculosis develops as a rule only when the doses of infecting material are either very large or received at very short intervals. His calves were able to recover from several infections if given sufficient time in the intervals. In some cases they recovered from many infections received in this way but they would generally succumb if repeated infections were frequent and continued.

Does not this accord very closely with the conditions under which the child receives infection from tuberculosis milk; i. e., small infections frequently repeated through a long period of time?

There has been a most unfortunate tendency for medical opinion and public opinion so far as the latter has been guided by the former to swing from one extreme to another in its view of this problem. Not long since we were told by great men who were considered authorities, that people commonly became tubercular as children; that the chief route of infection was through the, as yet imperfectly fortified alimentary canal; and the inference was plainly given that since cow's milk constituted the most important or sole article of diet of many young children, that therefore cow's milk was the great offending factor—an extreme view of course and not resting on any careful scientific demonstration.

Later, and we are just emerging from that period now, came the other extreme, a tendency to belittle or even ignore

bovine tuberculosis as an important factor in human tuberculosis.

In a communication to the Sixth International Congress on Tuberculosis in 1908, Sims Woodhead, of Cambridge, closed his address as follows:—

“As for myself, I am so satisfied with the nature of the evidence that has already been obtained, not only in England, but in Germany, in France, in Denmark, not to speak of important investigations carried on in other countries, that I am unwilling to countenance the relaxation of a single regulation for the control of bovine tuberculosis. Indeed, I will go further, and state my strong conviction that in the interests of hygiene, and with a view to the final stamping out of tuberculosis from the human race, additional and more stringent regulations will undoubtedly have to be drawn up and applied.”

It has been my privilege for several years to associate rather closely as a member of the International Commission on Control of Bovine Tuberculosis with the members of this body. I have been with them in Commission sessions and in private conversations repeatedly and feel sure than not one of the fourteen members now has any question concerning the frequent transmission from bovine to human or that this is an important phase of the question. On this Commission are such men as Revenel, V. A. Moore, Mohler, Hodgetts, Hurty, and Schroeder. Dr. Hodgetts represents the public health officers of the Dominion of Canada. Dr. Hurty, Secretary State Board of Health, Indiana, was selected to represent American health officers. In the reports of this Commission occur such statements as the following, adopted without any dissenting vote or opinion:—

“Young children fed on such milk ‘milk from the tubercular cow’ often contract the disease and it is a frequent cause of death among them.”

I remember distinctly that the exact wording of this sentence was given careful consideration and the sentence stands

in its report exactly as the Commission believed that it should stand.

Again this Commission states "that all milk and milk by-products used as food 'human' should be properly pasteurized, unless from cows known to be free from tuberculosis."

The British Royal Commission consists of such men as Sir Michael Foster, Sims Woodhead, Sidney Martin, Sir John McFadyean, Rubert Boyce, and Sir William Powers, and has studied this question. The International Commission on Control of Bovine Tuberculosis, the German Commission, and many individual workers have studied this question carefully and thoughtfully and they agree that whether the bacillus of bovine tuberculosis and the bacillus of human tuberculosis be mere varieties of one specific organism or are two distinct types, incapable of converging mutations, the tubercular cow must be considered as an important factor, and as a direct cause of tuberculosis in the human.

Surely there is but one reasonable,—only one safe position to take regarding the tubercular cow. It is that she is an important—not the most important—but an important source of tuberculosis for the human, and that under present conditions she is an ever-present, constantly operating menace to human health.

Meeting adjourned.

Wednesday, 12:30 p. m.

The third meeting of the Executive Committee together with Prof. M. H. Reynolds, was held in a room at the Chamber of Commerce Hall. The Live Stock Sanitary Commission was also represented and the matter of a new sanitary law was discussed.

Prof. Reynolds explained the plan he advised, which he said was very successfully being carried out in some of the

States. It was moved and supported that this committee recommend to the Association, that the Legislative Committee be empowered to meet with the Legislative Committee of the Feeders and Breeders' Association and the State Live Stock Sanitary Commission, for the purpose of considering changes in the State Sanitary Law. Carried.

The meeting then adjourned.

Wednesday, 1:30 p. m.

Meeting reconvened and the President called President-elect Gibson to the rostrum and handed him the gavel. He responded with a short speech.

Dr. H. M. Gohn, in reporting for the Legislative Committee, warned the Association of the bill which had been introduced in the Legislature, which purpose was to open up the time clause in the present veterinary law. He also spoke of the two vacancies on the State Veterinary Board.

It was moved and supported that the Executive Committee be intrusted to recommend to the Governor, the names of such men as would be qualified to fill these appointments. Carried.

Dr. H. M. Gohn brought up the matter of the expense of the incoming Legislative Committee, and by action duly taken, the President and Secretary were authorized to watch over this question and pay necessary bills.

Moved and supported, that the bill of Dr. J. Black for \$9, be paid out of the general fund. Carried.

Moved and supported, that the balance of \$1.25 due on complimentary plates at banquet, be paid out of the general fund. Carried.

Moved and supported, that the telegrams from the American Veterinary Review and Dr. W. H. Hoskins be placed on file. Carried.

Further moved and supported that Dr. Hoskins' telegram be answered, addressed to Senate Sub-Military Committee. Carried.

There being no more applications to consider, those laid over by censure of the Executive Committee, were recommended to lay over one year, with privilege for applicants to withdraw applications if they so desire.

Dr. Gohn gave some new experiences, under which head he included Bumps, giving the history of a case in a colt with unattached abdominal testicle (showing specimen), discovered while operating on a ridgling; the same being pocketed in a fold of the colic mesentery, undergoing a stage of dry degeneration. The other testicle was found in normal position and appearance. A stump of the cord was on autopsy found at the brim of the pelvis. He also spoke of a case of a colt with biliary type of influenza, in a stable with several other cases of complicated influenza, including bronchial pneumonia, laminitis, pleurisy with effusion.

Dr. M. J. Smead, chairman of the Banquet Committee, reported as follows:—

Tickets sold 63 (complimentary 9, 72 in all) -----	\$78 75
Amount paid -----	72 00
Balance -----	\$ 6 75

Moved and supported, that the Male Quartet, obtained from the M. A. C., be paid \$8 and the balance of \$1.25 be made up out of the general fund, for paying balance due on complimentary plates. Carried.

The resolution of Dr. Dunphy, relative to the Association endorsing Dr. Hoskins, will be submitted later.

The President authorized the committee appointed to look after the summer meeting to meet and report as soon as possible.

Prof. Grange in a few remarks said Michigan was the first State to introduce a clinic in the Association meetings, and that Dr. S. Brenton was the first operator. He very much regretted not being able to attend the banquet, and spoke of the progress of veterinary science. He said since leaving Toronto, he had been notified that the Dominion had appropriated \$10,000,000 to be used in the education of young men, and that he was anxious to get back to see that the Ontario Veterinary College would get its share. He also announced the anniversary meeting of the college to be held April 10, and invited all present to attend.

Dr. G. W. Dunphy made a motion that a resolution be submitted to the State Board of Agriculture, asking that an appropriation of \$50,000 be granted, for the veterinary department of the M. A. C. This was supported and carried.

Moved and supported that a vote of thanks be extended to all who contributed papers for the present meeting. Carried.

Further moved and supported the meeting be adjourned. Carried.

MIDSUMMER MEETING

OF THE

Michigan State Veterinary Medical Association

Tuesday, July 8, 1913.

The midsummer meeting of the M. S. V. M. A. was held at Detroit and Rochester on July 8 and 9 and was an immense success from every point of view, about two hundred and fifty attending.

On the afternoon of the 8th, the meeting convened at Hotel Griswold, where an address of welcome was made by Mayor Oscar Marx and very ably responded to by President Gibson and Dr. Geo. Dunphy. The mayor regretted not being able to turn the keys of the city over to the members and visitors of the Association, owing to the fact that they had previously been thrown in the river but heartily invited all present to visit the beauties of the great automobile city of the world, and wishing them a most enjoyable and profitable meeting.

Prof. W. J. R. Fowler, of the Ontario Veterinary College, in an address said it afforded him no small amount of pleasure to again meet with, and shake the hands of, so many of the boys he remembered as students of the O. V. C. He also congratulated the Association for the large attendance so early in

the session and would like to see a gathering of this kind in Ontario.

Prof. Clinton Smith, former Dean of the M. A. C., now employed by the Government of Brazil, gave a most interesting talk on the live stock situation in Brazil. He stated that hundreds of horses die annually from the effects of the bot-fly, and from other similar conditions. Dr. Smith returns to Brazil to organize an experiment station.

Dr. C. A. Waldron gave the history of a very peculiar case in a colt, the first symptoms noticed being slight knuckling of the fore limbs. These symptoms increased until the colt practically rested upon its ankles. Photographs were presented showing the condition.

A question box was provided for the presentation of cases and problems of general interest to practitioners and many interesting questions were discussed during the afternoon, with much benefit to all present.

At 3 o'clock, the ladies were given an automobile ride through the parks and places of interest in the city of Detroit.

In the evening at 7:30 o'clock the members, their wives and guests enjoyed a moonlight ride on the Detroit river. The weather was ideal and the trip was a most enjoyable one.

On the morning of July 9 at 8:30 o'clock, the entire Association and visitors were favored with a splendid trolley ride from Detroit to Parkedale, in cars furnished by Parke, Davis & Co. On arrival at Rochester an old-fashioned hay-rack ride from the cars to the Biological Farm was another pleasing feature of the trip. Here an inspection of the various buildings was made and the production of serums and anti-toxin demonstrated on some of the biological horses, which was extremely interesting.

At noon, the hay wagons, some ten in number, were again brought into service, to convey the members from the build-

ings down into a most beautiful grove for luncheon, where a genuine picnic lunch was served.

President Case, of the town of Rochester, then addressed the Association members and invited the ladies to enjoy an automobile ride through the surrounding beautiful country in automobiles provided by the courtesy of the people of Rochester.

Material for a splendid clinic had been provided in a large plaza, so that every one had a good opportunity of seeing the several operations which were performed by Drs. Fowler, Blattenburg, Fulstow, Brenton, Waldron, Hutton, Dunphy and Wilson.

Three roasters were operated upon by Drs. Blattenburg and Fowler, who also operated upon some cryptorchids, standing castrations and canine and feline operations were performed by Dr. S. Brenton; oophorectomy of a cow by Dr. Waldron; cryptorchid by Dr. Fulstow; string halt operation by Dr. Blattenburg; thyroidectomy by Drs. Dunphy and Wilson; the hypnotic effects of *Cannabis Americana* injected intravenously by Dr. Wilson and several other interesting clinical cases were enjoyed.

Briefly it was the unanimous vote of all present that the meeting, including the clinic, was the best ever held by the Michigan State Veterinary Medical Association.

In the evening the entire Association returned to Detroit in a happy frame of mind, declaring the mid-summer meeting a great success.



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Introduced by James N. McBride

An act to amend sections one, three, four and twenty-four of act number one hundred eighty-two of the Public Acts of eighteen hundred eighty-five, entitled "An Act to provide for the appointment of a State live stock sanitary commission and a State veterinarian, and to prescribe their powers and duties, and to prevent and suppress contagious and infectious diseases among the live stock of the State," as amended, sections one, three and four being sections five thousand six hundred twenty-seven, five thousand six hundred twenty-nine and five thousand six hundred thirty of the Compiled Laws of eighteen hundred ninety-seven, and to add thereto two new sections to be known as sections twenty-seven and twenty-eight.

The People of the State of Michigan enact:—

Section 1.—Sections one, three, four and twenty-four of act number one hundred eighty-two of the Public Acts of eighteen hundred eighty-five, entitled "An act to provide for the appointment of a State live stock sanitary commission and a State veterinarian, and to prescribe their powers and duties, and to prevent and suppress contagious and infectious diseases among the live stock of the State," as amended, sections one, three and four being sections five thousand six hundred twenty-seven, five thousand six hundred twenty-nine and five thousand six hundred thirty of the Compiled Laws of eighteen hundred ninety-seven, are hereby amended, and two new sections are hereby added to said act to stand as sections twenty-

seven and twenty-eight, said amended sections and said added sections to read as follows.

Section 1.—A commisssion is hereby established which shall be known under the name and style of "The State live stock sanitary commission." The commission shall consist of three commissioners who are practical agriculturalists and engaged in the live stock industries of the State, who shall be appointed by the governor with the advice and consent of the senate. One shall be appointed for the term of six years, one for the term of four years, and one for the term of two years, whose term of office shall commence on the second Tuesday of July of the year in which they are appointed and shall continue until their successors are appointed and qualified; and at each succeeding biennial sesssion of the legislature there shall be appointed in like manner one commissioner who shall hold his office six years or until his successor is appointed and qualified. The governor shall also appoint with the advice and consent of the senate, a veterinarian who shall be a graduate of a veterinary college legally qualified to confer the veterinary degree, and who shall be skilled in the diagnosis and control of infectious diseases of live stock, and who shall be recommended by the live stock sanitary commission, and shall serve for a term of six years from the second day of September of the year nineteen hundred thirteen, and until his successor is appointed and qualified. The governor shall also appoint every six years thereafter, upon the recommendation of the State live stock sanitary commission, a competent and skilled veterinarian having the qualifications above mentioned, whose term of office shall be for six years or until his successor is appointed and qualified.

Section 3.—Each commissioner shall receive the sum of five dollars per day and necessary expenses for the time actually spent in the discharge of his duties; and the veterinary surgeon shall receive the sum of two thousand dollars per annum and necessary expenses. The said veterinarian shall be required to carry out the directions of the live stock sanitary

commission, and shall devote his entire time to the duties of his office.

Section 4.—It shall be the duty of the commission to protect the health of the domestic animals of the State from all contagious or infectious diseases of a malignant character, and for this purpose it is hereby authorized and empowered to establish, maintain and enforce such quarantine, sanitary and other regulations as it may deem necessary. It shall be the further duty of the commission to furnish proper office facilities, at Lansing, for the State veterinarian, and a laboratory for the investigation of infectious diseases of live stock.

Section 24.—In case of tuberculosis cattle, whenever the commission shall direct the killing of such cattle, it shall be the duty of the commission to appraise the animal or animals condemned, the owner or owners thereof to receive fifty per cent of value of animals as though not diseased, but such sum in no case shall exceed the sum of fifty dollars: Provided, That the owner or owners of slaughtered animals shall receive no compensation for the same unless the commission shall be satisfied that the premises have been kept in a sanitary condition, nor shall they receive compensation until said sanitary commission is satisfied that the infected premises have been disinfected in such manner as to prevent the further spread of the disease. When the State live stock sanitary commission, or a member thereof, shall deem it expedient to have cattle that have reacted to the tuberculin test slaughtered under federal inspection, or under the inspection of a competent veterinarian authorized by the State live stock sanitary commission, it shall have the power to order such slaughter. If the carcass of any such animal shall pass the inspection without being condemned, the owner of the animal shall receive all proceeds secured from the sale of such carcass after payment for shipping, handling and slaughtering charges have been deducted, in addition to the above mentioned fifty per cent appraisal value. If the carcass of any such animal shall be condemned by the inspectors, the owner of the animal shall receive the proceeds

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of the sale of the hide, tallow, offal or any other proceeds from the sale of the carcass, after deducting the cost of handling, shipping and slaughtering, in addition to the above mentioned fifty per cent appraisal valuation: Provided, That any animal, upon being slaughtered, and showing no tuberculin lesions, the owner thereof shall be paid full value for such animal, but such sum in no case shall exceed the sum of seventy-five dollars. The State live stock sanitary commission shall have power to designate the places where suspected animals shall be slaughtered, and also to employ a competent inspector to examine the carcasses of slaughtered animals.

Section 27.—It shall be required of all individuals or firms who sell mallein or tuberculin to any resident of the State of Michigan to report such sale immediately to the State veterinarian, including the date of sale, name and address of parties to whom sold, and the amount of such sale.

Section 28.—In case of an outbreak of hog cholera the State live stock sanitary commission shall, upon application in writing of two or more swine owners in any locality, immediately investigate the conditions and surroundings and take such steps as in its opinion seems advisable to check the spread of the disease. All serum used shall be furnished by the State, and all expenses incurred in the administration of the serum for the prevention and spread of hog cholera shall be paid as other expenses that are incurred by the commission.

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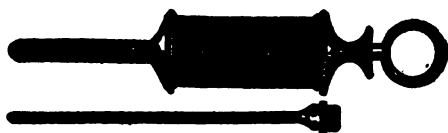
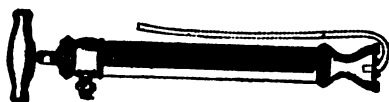


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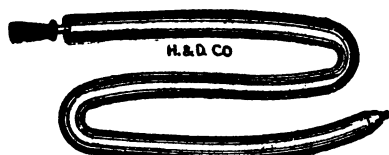


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